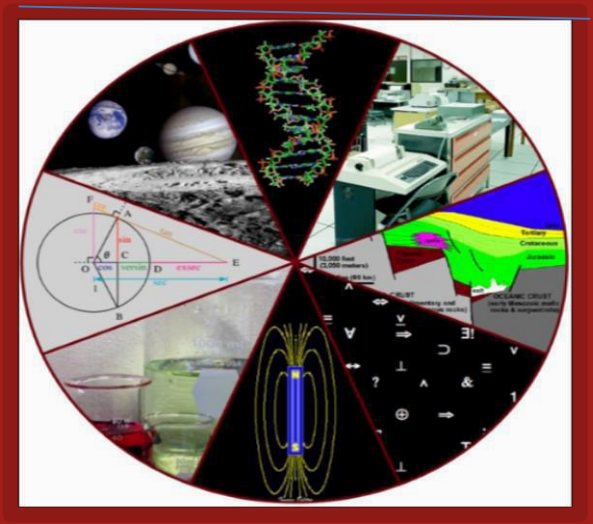
FLORIDA ATLANTIC UNVERSITY

BIOLOGY MASTER'S PROGRAM

AND

PROFESSIONAL SCIENCE MASTER IN THE

BUSINESS OF BIOTECHNOLOGY (PSM)



Guide to Obtaining a Master's Degree in Biology

REGULATIONS AND PROCEDURES

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i. Introduction

Department of Biological Sciences offers 5 MS Degree options. Each program is uniquely tailored for each student depending upon areas of interest and the FAU Biology Faculty member the student works with. Each student entering the program must have an FAU Biology Faculty member who will supervise the student for the degree option they choose. See below for degree options and descriptions of each program.

Degree Program Options and Brief Descriptions

MS Thesis *Option (36 credits)* is designed for students whose career goals include a research emphasis. This option requires completion of a research project and thesis. This option is tailored for students interested in doing research or contemplating graduate work for a Ph.D. degree.

MS Non-Thesis *Option #1 (36 credits)* is designed for students who wish to improve their knowledge in the biological sciences through a rigorous series of courses and exams, or for Integrative Biology PhD students choosing Biology for a Master's Along the Way (MALW) degree.

Master in Science Teaching Non-Thesis *Option #2* (30 - 36 credits) is designed for students who wish to satisfy requirements for teaching in high school or junior college. In addition to regular course work, students in this option may also elect to complete a Research Report (a short paper describing the results and significance of a circumscribed research project). Depending upon background, students may also be required to take 6 hours of Education Internship credits.

Professional Science Master in the Business of Biotechnology (PSM-BB) *Option (34 credits)* is intended as a terminal degree for students interested in entering the workforce following completion of the degree. The program is tailored for the student with undergraduate training in biology or chemistry who is primarily interested in working in the business-side of the emerging biotechnology industry. The program includes traditional classroom courses in both business and science that culminates in two internship experiences. The first internship provides experience working side-by-side with a research scientist. The second internship exposes the student to the business-side of the biotechnology industry.

Combined BS/MS Option is a Molecular and Biotechnology fast track to an MS degree (153-156 credits, 120 for the undergraduate degree and 33-36 for the master's degree. Students complete the undergraduate degree first, taking no more than 12 credits of graduate coursework in their senior year, which will then be used to satisfy both degrees.)

This combined degree program leads to both bachelor's (B.S.) and master's (M.S.) degrees in Biological Sciences with an emphasis in molecular biology and biotechnology. It is a laboratory intensive curriculum that provides hands-on training for students who are interested in a career in the rapidly expanding field of biotechnology. This program will also provide excellent preparation for pursuing advanced degree studies.

ii. Exciting Careers in Biology

To see what exciting careers that you can have with a Master's Degree in Biology and Professional Science Master's in Business Biotechnology, visit the FAU Career Center.

Go to the link below to discover Biologist career job titles, job and internship links, industry information links, as well as related FAU student organizations. The content and resources are representative of typical career paths associated with these degrees and do not represent a comprehensive list.

http://www.fau.edu/career/majors/biologicalsciences.php

FAU Career Center

We encourage you to explore multiple majors at the link below to learn about a wide range of career opportunities to decide what the best degree is for you and your future.
You can visit The FAU Career Center, which has professionally trained and nationally certified counselors to help you in your career decision. If you are undecided about your major, career, or other career-related decisions, our counselors may be able to assist you.

For more information on career counseling and/or to schedule an appointment contact the FAU Career Center at 561-297-3533.

http://www.fau.edu/career/majors/

Ready to Apply?

See Biology MS Application Procedures and Requirements (next page)

I. APPLICATION PROCEDURES AND REQUIREMENTS

A. *Admission/Application Procedures*

Apply online through the Graduate College link: **https://www.fau.edu/graduate/apply/**

All application requirements (see section C, below) must be completed by the respective deadlines (see section B, below); otherwise, application will not be reviewed. Students must then re-apply for the next application review cycle.

Admission to the Master's Programs will be based upon the specific application/admission requirements below

** International students please visit International Student Services website at link below.
https://www.fau.edu/global/international/prospective/admission-to-fau/

B. *Deadlines to Apply*

Fall Term = January 15
Spring Term = October 1

Late applications and required documents will not be accepted after deadlines (see Section A, above).

C. *Application Requirements:*

1) **Academic Record** (upload copy of unofficial transcript via Graduate College application process)

   a) **Thesis: 3.0 or better average on the last 60 hours** of undergraduate credits or established graduate level proficiency

   b) **Non-Thesis Option 1, and Non-Thesis Option 2 (MST)**
   Requirement: **3.0 or better average on the last 60 hours** of undergraduate credits or established graduate level proficiency

   c) **Professional Science Master in Business of Biotechnology (PSM-BB)**
   Requirement: 3.0 or better average on the last 60 hours of undergraduate credits or established graduate level proficiency

2) **Letters of recommendation:** 3 are required; submitted electronically via Graduate College application process. (letters by previous professors are preferable)

3) **Statement of goals and interests:** Upload typed statement via Graduate College application process

4) **Graduate Student Biology Faculty Advisor Verification Form Completed:** Submitted electronically via Graduate College application process. **Thesis, Non-thesis, MST students**(See section I I, A Biology Departmental Advisor (Chair of Committee) for additional information). **Professional Science Masters in Biotechnology Applicants**-Please email Dr. Binninger at binninge@fau.edu. **Your file will not be reviewed and will be considered incomplete if form is unsigned by an approved Biology Faculty Professor.**

D. ***Prerequisite Requirements:***

Although an undergraduate degree in Biological Sciences is the usual mode of preparation, applicants from other fields of science such as mathematics, computer sciences, physical sciences, and social sciences are welcome and considered individually. **Undergraduate training is expected to include introductory biology, calculus, physics, and biochemistry.** Deficiencies in these preparatory courses can be corrected by taking the appropriate courses or by passing equivalency exams. The student's Advisor and Graduate Supervisory Committee will be responsible for deciding which of these deficiencies must be corrected before the students complete the graduate degree. Undergraduate courses **are not** covered by Tuition Waivers.

E. ***Transfer Credits:***

Up to 1/3 (or 12 out of 36, for a typical program) of the credits required for a degree track might be taken at FAU as a non-degree seeking student and applied to their graduate degree requirements. Master's programs may accept a maximum of 6 graduate credits earned from another institution beyond a baccalaureate degree (University Catalog for Transfer Credit Policy).

F. ***Conditional Acceptance***

Applicants who show promise, but fail to meet the department's minimum standards (e.g., GPA) can be potentially admitted on "conditional status". If accepted, student must complete a minimum of two (2) graduate courses taken for a letter grade (not S/U) with a minimum of 'B" grade in each class in the 1st semester. Satisfactory performance in these courses will enable the student to be reevaluated by the MS Graduate Programs in Biology Committee for official entry into the graduate program. Excluding summer terms (when graduate class offerings are limited), **Conditionally-admitted students must complete the two (2) graded courses in their first term (either fall or spring, depending upon when they were admitted).**

G. ***Term Enrollment:***

Students who are accepted must register for classes for the term in which they were accepted – there are no deferments. Students who do not register in their initial term will have their application records deactivated and, thus, will need to reapply if they wish to be considered for degree conferral.

II. FAU Biology Departmental Advisor (Chair of Committee)

A. What is an FAU Biology Departmental Advisor?

The **FAU Biology Departmental Advisor is the Chair of your MS Committee**. As such, they help you, the student, achieve your educational and professional goals by working closely with you to finish the degree in a timely fashion. From the first semester through to the last semester they will work with you on courses and research (when applicable) that would give you the skills and connections needed to complete your degree, including Thesis research, Non-thesis Comprehensive Exams, and Internships in the Professional Science in Business of Biotechnology.

B. FAU Biology Department Advisor Requirements Prior to Acceptance

- **Prior to acceptance into the graduate program, each student must have an FAU Biology Departmental Advisor (Chair of Master's Committee)**

- For FAU Biology Faculty Departmental Advisor selection, look at the Biology Master's Program Faculty using the following link. (Faculty member must be listed under "Institution" FAU College of Science AND Biology MS Program Faculty)
  http://biology.fau.edu/home/biology_ms_program_faculty.php
  Affiliate, Non-FAU Faculty and Faculty not in Biology cannot be Chair of your Committee, but they can Co-Chair with a Biology Faculty Member (see Program Policy below in section II)
- **Once you find a faculty member in your area of interest, contact them directly to see if they are taking new students for the semester in which you are applying**. Keep in mind that they may not be able to accept a new student for a variety of reasons, including prior commitments with students currently in the program.

- Once an FAU Biology Faculty Members agrees, send them the Graduate Student Biology Faculty Advisor Verification form located here:
  https://biology.fau.edu/formsandpolicies/graduate_student.php
  Once signed and completed, you will upload the document via the online application process through the Graduate College.

III. PROGRAM POLICIES

A. Program Grade Requirements

- Only graduate students enrolled for **9** semester hours (Fall and Spring terms) are considered "**full- time**." **Students must maintain a minimum grade point average of 3.0 [B] each semester in all course work.**

- **Passing grades:** The grades of "A" through "B," and "S," are passing grades.
  - Note: The grades of "B-," "C+" and "C," while considered passing for undergraduate students, are indicative of unsatisfactory work for graduate students.

- **Failing grades:** The grades of " B-," "C+," "C, "C-," "D+," "D," "D-," "F" and "U" are unsatisfactory grades. No credits are earned in courses in which grades of "AU," "CR," "F," "I," "U," "W," "WM" or "ZR" are received.

B. Mandatory Program Meetings

1) Program Meetings

Annually (or biannually) the MS Graduate Program in Biology will have a meeting(s) required of all students in the program (Thesis, Non-thesis, MST and PSM students) **which will be on the Friday before classes start in Fall and Spring terms, respectively**. **Program requirements, updates, introductions, orientation and question/answers will be among the topics. Such meetings will likely be the only time all students in the program will meet simultaneously. THUS, THEY ARE MANDATORY. Those who miss such meetings without prior approval are considered out of good standing, and risk removal from the program.**

2) Mandatory Program Meeting Petition to Excuse Absence

a) **Students must petition the MS Biology Graduate Program Committee at least one (1) month in advance of such scheduled meetings for approval to be excused from attending.**

Petitions will not be approved for staying extra days before or after an attended conference begins or ends, respectively, or taking personal vacations, or reunions, weddings, etc.--- these are not considered excused absences for missing such mandatory program meetings. Again, such petitions based on the criteria discussed above will not be approved and the student will be considered Out of Good Standing in the program. Please see section G and H in Program Policies

b) **Petition Instructions:**

i. **One (1) month prior to Mandatory Program Meeting have the Chair of your Committee email Dr. Brooks at wbrooks@fau.edu and cc rdixon@fau.edu an email request to miss the Biology Mandatory meeting for presenting at conference or scientific meeting.**

ii. Send a copy of the agenda for the scientific meeting or conference showing that you will be presenting a seminar or poster of your research. Similarly, if research data collection is involved, similar documentation/verification must be provided

C. Plan of Study

This is the set of courses that, in consultation with your advisor, you will take to complete the coursework and credit hour aspects of your degree requirements. Please see section VII. MASTER'S DEGREE OPTIONS AND DEGREE OPTION REQUIREMENTS for the degree you are seeking.

Plan of Study requirement:

- ✓ Review your course degree requirements for the degree you are seeking.
- ✓ Undergraduate courses do not count towards your degree program.
- ✓ Meet with your academic advisor to discuss your courses.
- ✓ Use checklist for your degree at end of this document to plan with your advisor your course curriculum.
- ✓ Initiate Plan of Study and let the MS Biology Graduate Program know when it is ready for review so that potential corrections can be made before official submission and approval.
- ✓ Put courses in chronological order.
- ✓ Have your advisor send an email to rdixon@fau.edu stating that they have reviewed and approve.

Plan of study must be fully approved by the end of your first semester.

Plan of Study Submission Instructions:

1. Log in to your MyFAU account at https://myfau.fau.edu/
2. Click on the MyPOS icon
3. Follow the prompts
4. Quick Guide link **https://dorsrv1.fau.edu/GCEF/SupportMyPOS_Student_Quick_Guide.pdf**

For Assistance with online Plan of Study System please contact:

graduatesupport@fau.edu or call 561-297-2203

D. M.S. Supervisory Committee Membership Nomination Requirements, Instructions and Form

The M.S. Supervisory Committee consists of three FAU Biology Graduate Faculty Members that will guide and facilitate the student's progress toward completion of their Master's Degree.

1) Minimum requirements for your Supervisory committee:

Three (3) FAU Biology Faculty Members (including the Chair of your Committee)

2) FAU Biology Master's Supervisory Committee **MUST:**

A) Have a minimum of one (1) member for the Biology Department Faculty List (See Link) https://biology.fau.edu/home/departmental_faculty.php

B) One or two (1-2) of your members can be form FAU Biology Master's Program Faculty (See link below) or they can be from the list above. https://biology.fau.edu/home/biology_ms_program_faculty.php

C) All three members must be a Member of the Graduate College Faculty or Associate Graduate Faculty (see link below) in order to be a signer on your Thesis https://www.fau.edu/graduate/forms-services/graduate-staff-faculty-resources/graduate-faculty/

D) Additional 4th: An optional fourth (or more) member can be on your Supervisory Committee

3) PSM-BB students will have the MS Graduate Committee Members serve as the Supervisory Committee.

Non-FAU affiliates and Non-Biology Faculty (An Affiliate who is not employed by FAU and FAU employess not listed in the Biology Department) can only co-chair or serve on your committee (Note: must be listed on the Graduate College Faculty in order to be listed as one of the 3 signers on your Thesis).
If you choose an optional/additional fourth proposed member(s) who is not a member of the Graduate Faculty, they must hold the rank of master's degree or higher. They must also indicate professorial affiliation and credentials and provide a curriculum vita (NOTE: this member will not have voting/signing privileges on your thesis).

Instructions for Thesis Students Master's Committee

1) Meet with your advisor during your first semester to discuss who you would like to serve as part of your required thesis committee.

2) Contact each potential FAU Biology Faculty Master's Program Member once they agree to be on your committee. Have each individual member sign the Master's Thesis Committee Approval Form #6 (form is found on the Graduate College website):
https://www.fau.edu/graduate/forms-services/forms/

3) Turn in Signed Masters's Thesis Committee Approval Form#6 to Becky Dixon at rdixon@fau.edu to get Biology Department chair signature. (form will be forwarded to College Dean)

IMPORTANT: Graduate College Policy
Form must be approved before you can sign up for Master's Thesis Proposal BSC 6963 or Master's Thesis Credits (BSC 6971) or Master's Thesis Defense (BSC 6975)

Instructions for Non-Thesis and PSM -BB Students

1) Meet with your advisor during the end of your first semester or beginning of your second semester to discuss who you would like to serve as part of your required committee.

2) Contact each potential FAU Biology Faculty Master's Program Member, and once they agree to be on your committee get each individual member's signature on the Biology Master's Members for Supervisory Committees Form. https://biology.fau.edu/formsandpolicies/graduate_student.php

3) **Turn in Signed Biology Master's Members for Supervisory Committees Form to rdixon@fau.edu by the last day of your 2nd semester to be considered making adequate progress and stay in good standing.**

Faculty Appt. in Biology Formal definitions, policies and procedures within the purview of the Graduate College policy:

***Graduate College Policy**: All thesis/dissertation committee members **must** obtain **Graduate Faculty status;** otherwise the Graduate College will not recognize their signatures on a thesis*

- ***FAU Faculty** (Biology and FAU Faculty not in the College of Science) must be added to the Graduate Program Faculty list for the Program in which they wish to participate and then added to the Graduate College's Graduate Faculty list by that Program.*

***Non-FAU Faculty affiliates** (faculty employed by another university or institution) must first become affiliates, then be added to the Graduate Program Faculty by the Program Committee and then added to the Graduate Faculty. Non-FAU affiliates can only co-chair or serve on your committee (Note: they must be on the Graduate College Faculty official list to serve as one of the 3 signers on your Thesis)*

***i. Affiliate Status** (Non-biology Faculty and FAU Faculty not in the College of Science)*

*a. **Per the Graduate College and COS:** Non-FAU faculty must obtain Affiliate status before they can obtain Graduate Faculty status, then voted in as Affiliates by Biology Faculty and added to the banner system (obtain Z#, FAU login, library access, etc.).*

*b. **Per the Graduate College and COS:** FAU Faculty not in the College of Science must be voted in by the Biology Faculty, obtain Affiliate status with the Department and have Graduate Faculty status before they can co-chair or be on a Committee Member on a Master's Students in the Biology Master's Program. Non-FAU affiliates can only co-chair or serve on your committee (Note: they must be on the Graduate College Faculty official list to serve as one of the 3 signers on your Thesis).*

***ii. Graduate Program Faculty Status** (Internal and external faculty)*

a. Program Faculty Status must be voted on by the Graduate Program in which the individual wishes to participate.

b. The Program Faculty list is maintained internally by the program/concentration.

***iii. Graduate Faculty Status** (FAU and Non-FAU Faculty)*

*a. **For MS Program Faculty***

** Candidates are simultaneously voted into MS Program Faculty and Grad Faculty status by the MS Program Committee.*

** A Graduate Faculty application is then submitted to Grad College through COS (faculty list maintained by Graduate College—available on GC webpage)*

E. Scheduling Timeline for Completion of Degree Requirements.

All Biology Master's and PSM-BB Students working full-time towards degree are expected to complete all requirements for degree within two (2) years after entering the program.

Scheduling Timeline Requirements:

1) The Biology Master's and PSM-BB Programs **require that all (full and part-time) students complete the Plan of Study prior to the beginning of their 2nd semester**. For instructions, please see above section C.

2) **Form a Graduate Supervisory Committee** See procedures for committee formation in Advisor & Graduate Supervisory Committee above. PSM-BB students have a standing committee set up by the Department. **Form#6 https://www.fau.edu/graduate/forms-services/forms/**

3) MS Thesis option students must **present a Thesis Proposal Seminar no later than the 3rd semester** of graduate study (see Thesis Proposal requirements)

4) MS Thesis Option students (in a subsequent term) **must present a Master's Defense Seminar no later than the 4th semester** of graduate study (see Thesis Defense requirements)

5) MS Non-thesis Option 1 and Non-thesis Option 2 - MST students **must complete the Comprehensive Exams no later than the 4th semester** (see Comprehensive Exams Requirements)

6) PSM-BB Students, first internship should be completed no later than the 3rd semester.

7) PSM-BB Students, second internship should be completed no later than the 4th semester.

8) **No student may take more than seven (7) years to complete a Master's degree.**

9) Students who do not enroll for classes one term (Fall or Spring) can enroll the subsequent term without issue. However, students that do not enroll for 2 or more consecutive terms must reapply to the graduate program.

F. Graduate Student Individual Development Plan (IDP) & Annual Progress Evaluation

Every year on **November 1st IDP is due.** Every **April 15th IDP & Annual report will be due**. The student (and his/her advisor) is required to complete and submit to the MS Graduate Programs in Biology the Committee form (which will be distributed to students a month before due) indicating (1) the semester/year in which the student entered the graduate program, (2) progress made by the student since entering the program (or since the previous year's report if the student is in his/her second year of study), and (3) goals and plans for the upcoming year. **The report must be signed by both the student and advisor**. Failure to submit such a report by the deadline can result in the loss of financial (T.A.) support during the Summer terms, and each subsequent semester until the report is received and reviewed by the MS Graduate Programs in Biology Committee. The report will serve, in part, as the basis for rank-ordering students that apply for continued T.A. support.

G. Satisfactory Progress and Good Standing

Students are expected to maintain good academic standing and make adequate progress toward completing their degree. Students are responsible for being aware and in compliance with all Departmental and University requirements. See Below for minimum departmental requirements.

Students maintaining good academic status and making adequate progress and in Good Standing are those that meet the following *minimum* requirements:

1) Maintain **a cumulative GPA of 3.0** and receive **grades of B or higher or Satisfactory (S) in all graduate work**

2) **Meet all required deadlines** such as Plans of Study, Thesis Proposal (for thesis students), Committee Supervisory formation, Annual Report etc. (see section E. Scheduling timelines)

3) **Attend all mandatory meetings** (e.g., MS Meetings, TA meetings, IACUC for those working with vertebrates and cephalopds, Lab Safety)

4) **Adequate and ethical performance** as both **a student in classes and as a TA** (for those with such assistantships)

5) The schedule timelines for completion outlined will be used by the MS Graduate Programs in Biology Committee to judge whether students supported by Teaching Assistantships are making "satisfactory progress in the program." Students attending Graduate School on a part-time basis must satisfy both their advisor and their Graduate Supervisory Committee that they are progressing with their degree requirements as rapidly as possible.

H. Not in Good Standing and Dismissal

Students who do not comply with the minimum requirements above will be placed in **Not in Good Standing** status. In such case, students will be required to schedule a meeting with the MS Biology Graduate Chair to discuss their situation, including a plan to get back into **Good Standing** as soon as possible. While in **Not in Good Standing** status, students are ineligible for Teaching Assistantships. Additionally, students who remain in **Not in Good Standing status** for 2 consecutive semesters risk removal from the program.

I. Communication Between Graduate Students and MS Biology Program

The MS Biology Program is large and geographically located among multiple FAU campuses. Thus, **email is the official communication form for the program**. As such, we require that all MS Graduate students use their FAU-assigned email. We suggest that students create a folder in their email client software specifically for our email communications. We understand that newly-admitted students may not yet have an FAU email address; so we will temporarily use private or non-FAU email addresses until such students have their official FAU email addresses.

J. Electronic or Digital Signature Policy

The ***MS Biology program requires written permission in advance from the Professor before the program will consider accepting any document presented by the graduate student with a copy of a professor's electronic or digital signature***. Written permission must be sent by email directly by the Professor to the Program Assistant; forwarded emails will not be accepted.

IV. DEPARTMENTAL FINANCIAL SUPPORT OPPORTUNITIES

A. Teaching Assistantship (TA) is potentially available to graduate students to help finance their educational studies (NOTE: these positions are highly competitive)

For eligibility to receive a Teaching Assistantship, you must be admitted into the Biology Master's program and **follow all of the Biology Master's Program Regulations Policies, and remain enrolled as a full time graduate student, and maintain good standing. All credit hours covered by the Tuition benefit must be required for the degree. Student must pay directly for any course not required for the degree**. For the official Graduate College policies, please see section V, below, *Tuition Benefits Policy for Graduate Students*

B. Biology Teaching Assistant Job Responsibilities may include but are not limited to the following:

1) Teaching a lab, lab prep, writing and grading quizzes and exams, making copies as needed, meetings, grade spreadsheets, and general academic preparation for teaching the labs.
2) Proctoring exams given by others in the Department
3) Office hours - where you are available to students for the lab you teach. (2 hours minimum every week)
4) Attend one of the Teaching Effectiveness Workshops offered in the current semester.

C. Teaching Assistantship Priority System

T.A. Assignments: Are distributed based on the following **Priority System**:

- First and second year MS Thesis students making adequate progress have highest priority over both non-thesis, PSM-BB and BS/MS students (support is normally given for a two-year period only)
- Students admitted under normal status have priority over those admitted conditionally (until those latter students are officially accepted; see Admission Procedures section on p.1)
- Student must be making satisfactory progress and be in Good Standing (see Program Policies section III)
- Subject knowledge and teaching ability/past performance
- Because of the relatively few number of summer TA positions (fewer courses are offered in the summer), and Integrative Biology PhD students are given highest priority for such positions, all MS are lower priority. When TA positions are available to MS students, the basic priority system above will be used to make assignments. However, MS students should not plan on getting a summer TA more than one time.

D. TA Request

- Each semester, all students in our Biology MS Graduate programs who are making Satisfactory Progress and are in Good Standing will receive an email regarding TA support.
- You must respond to this email by the designated deadline (stated in the email) to be considered for a TA position for the upcoming term

E. Teaching Performance Evaluation:

Performance as a TA is evaluated and monitored continuously during the teaching assignment by either the Laboratory Supervisor and/or Professor. TA academic progress and success is evaluated annually by the Graduate Program Committee (see ***Annual Evaluation*** under Program Policies section E). Students are expected to demonstrate dedication and ethical behavior in regard to their T.A. duties. This includes teaching and administering the required materials presented by the Laboratory Supervisor and/or assigned Professor.

F. TA Grade Requirement:

Students must maintain excellence in their own course work; minimum grade point average of 3.0 B must be maintained each semester in all course work attempted. For those in research tracks, competency and progress in research must be demonstrated and maintained.

G. Mandatory Orientation T.A. Meetings:

1) TA's are all required to attend mandatory orientation meetings prior to each term – **so do not schedule commitments that would conflict with these meetings. Those who do not attend these required meetings may have their TA contracts canceled.** Keep in mind that the Teaching Assistantship is a job that requires you to abide by all TA contract guidelines and all policies in the Biology MS Program (outlined within this document).

2) **Mandatory TA Meeting Petition for Excused Absence:**
   a) **Students must petition the MS Biology Graduate Program Committee at least one (1) month in advance of such scheduled meetings for approval to be excused from attending.**
   b) Petitions will not be approved for staying extra days before or after an attended conference begins or ends, respectively, or taking personal vacations, or reunions, weddings, etc.- these are not considered excused absences for missing such mandatory TA meetings. Again, such petitions based on the criteria discussed above will not be approved and the student will potentially have their TA contract canceled.

Petition Instructions:

i. **One (1) month prior to Mandatory TA Meeting have the Chair of your Committee email Dr. Brooks at wbrooks@fau.edu and cc rdixon@fau.edu a request to miss the Biology Mandatory meeting for presenting at conference or scientific meeting.**
ii. Send a copy of the agenda for the scientific meeting or conference showing that you will be presenting a seminar or poster of your research. Similarly, if research data collection is involved, similar documentation/verification must be provided.

H. T.A. Contract Termination:

T.A. contracts can be terminated at any time (including those underway), and loss of consideration for future T.A. support, in cases where there is a serious dereliction of duties. Additionally, graduate students on academic probation will not be considered for T.A. positions.

I. Teaching Assistantship for International Students

- As part of our commitment to excellence in teaching, Florida Atlantic University has established a minimum level of English language and teaching proficiency by which all international graduate students may work as graduate teaching assistants. To assure that these standards are upheld, the Graduate College in conjunction with the Department of Teaching and Learning has established the Seminar for International Teaching Assistants (SITA).

- SITA is a multi-purpose program designed to prepare international graduate students to teach undergraduate students at FAU. Such preparation includes developing an understanding of the teaching role in American university classrooms, providing training in English pronunciation and intonation, practicing classroom communication skills and instructional strategies, and assisting students during the first semester of teaching at FAU.

- All international teaching assistants are required to successfully pass a panel review prior to beginning their teaching assignments. The SITA program takes place the week before Fall semester classes commence. There are nine additional sessions offered throughout the Fall semester, for a subset of teaching assistants requiring additional language and teaching development. Contact the Graduate College or see the following link for additional information http://www.fau.edu/international/internationalassistants.php

J. Research Assistantships

1) **Research Assistantship-** potentially available directly from your Faculty Advisor

   For eligibility to receive a Research Assistantship, you must be admitted into the Biology Master's program and **follow all of the Biology Master's Program Regulations Policies, and remain enrolled as a full time graduate student, and maintain Good Standing. All credit hours covered by the Tuition benefit must be required for the degree. Student must pay directly for any course not required for the degree.** For the official Graduate College policies, please see section V, below, *Tuition Benefits Policy for Graduate Students*

2) **Research Assistant Position Job Assignments may include but are not limited to the following:**

   a) Assisting in lab research,
   b) Community-based research activities,
   c) Developing research and evaluation surveys,
   d) Collecting data, analyzing data using software analysis programs
   e) Data presentation, and/or writing draft research reports

Please check with your Faculty Advisor for availability

Tuition Waivers and Financial Aid Requirements

- **All students must notify the Office of Student Financial Aid immediately if they receive or anticipate receiving a tuition waiver or exemption, as financial aid may be affected.** Tuition waivers are considered "resources" and must be considered a part of a student's financial aid package. To report outside awards, complete the Student Statement of Outside Resources and submit to the Office of Student Financial Aid. Should it later be found that you are receiving outside resources which you neglected to report, your financial aid package will be adjusted retroactively to include these resources. This adjustment may result in repayment of previously disbursed financial aid.
  See link below for Financial Aid Office Contact Info:
  https://www.fau.edu/finaid/contact/
  It is the student's responsibility to pay all "student fees"

V) GRADUATE COLLEGE TUTION BENEFITS POLICY

Amended Febuary 2023

This policy applies to all graduate students eligible for tuition waivers from the Graduate College//Provost's office based on the graduate assistantship classification. Throughout this document these students are referred to as graduate assistants. For graduate assistants hired in nonacademic units, prior approval from the Dean of the Graduate College is required for tuition benefits.

Graduate assistants are eligible to receive tuition benefits for up to 27 credit hours in a given academic year, provided all requirements listed below are met:

1. The appointment period must be continuous within the official beginning and ending dates of the academic semester or summer session.

2. The level of tuition benefit available to students is driven by the FTE of the appointment and enrollment status.

   a. To receive 100% tuition benefits in the Fall and Spring semesters, students must have a 0.5 FTE appointment (20 hours per week) and be classified as full-time graduate students. (Refer to the Full-Time Graduate Student Classification Status)

   b. Students who have met the conditions in (a) above during the previous Fall or Spring semester may receive 100% tuition benefits during the Summer term with no minimum enrollment requirement provided they have at least a 0.25 FTE appointment.

   c. Students with FTE employment conditions between 0.25 and 0.50 may receive a prorated tuition benefit based on the FTE appointment and enrollment status.

   d. Except as provided by (b) above, students with an enrollment status less than full-time (as defined by the Full-Time Graduate Student Classification Status) are eligible to receive 50% tuition benefits provided their appointment is at least 0.25 FTE.

3. All credit hours paid by this tuition benefit must be for coursework necessary to complete the graduate degree.

4. The maximum number of credit hours for which graduate students can receive tuition benefits is set at 10% above the published credit hour total for the degree program. Courses taken to remove deficiencies as indicated on the Plan of Study are allowable and do not count toward the 10% limit.

5. An approved Plan of Study is required to receive tuition benefits beyond the second semester of the assistantship. Students receiving tuition benefits as part of an assistantship are required to file a Plan of Study and obtain final approval from the Graduate College by the end of the second semester of the assistantship.

6. Students must maintain a cumulative GPA of 3.0 based on the degree requirements as stipulated on the approved Plan of Study.

II. Please note the following conditions for Graduate College Tuition Waivers:

a. Although the tuition benefit can cover up to 27 credits per academic year, the maximum tuition waiver that will be applied to a student's account is 10 credits in any given semester. If a student is graduating in the current semester, then up to 12 credits of tuition waivers may be applied without a Form 10 petition. Programs requiring enrollment in 30 credit hours in an academic year (as indicated in the university catalog) will be granted tuition benefits to cover these credits.

b. Due to our limited tuition waiver budget, approval of tuition waivers is not automatic, and upon review of waiver request, the Graduate Dean may deny tuition waiver benefits.

c. Any non-resident graduate assistant with a minimum of 0.25 FTE will be charged an out-of-state nonresident fee of $0.00. It is the graduate assistant's responsibility to pay **all** student fees. Tuition waivers do not cover local fees and other student fees.

d. Graduate assistants who resign or terminate their assistantship before the end date of their employment period will forfeit all their tuition benefits and must repay the university the full amount of tuition paid by this benefit for the term in which they were enrolled.

e. The last day to receive tuition benefits in any given semester is the "last day to drop/add courses without consequences" as indicated in the FAU academic calendar. After this date students will not be eligible to receive tuition benefits in that semester. If a graduate assistant is hired after the date the tuition and fees are due, the graduate assistant is responsible for paying the tuition and fees. When the graduate assistant is fully hired and on-boarded, the hiring department should notify the Graduate College to determine if the student meets the tuition waiver eligibility requirement. If the graduate assistant is eligible, prior approval from the Graduate College is required to apply the tuition benefit.

f. To use tuition benefits for a graduate research assistants (GRAs) position, prior approval by the Dean of the Graduate College is required using Forms 20 and 21. When faculty submit grant applications in which the budget includes stipend funding for a GRA position, then the Principal Investigator(s) is expected to also budget for the GRA's tuition at the in-state rate. Exceptions will be considered if the funding agency states that tuition is not an allowable budget item.

g. To use tuition benefits to support graduate teaching assistants (GTAs), prior approval by the Dean of the Graduate College is required.

h. To award an assistantship, both the stipend and accompanying tuition benefit must be available. The amount of the tuition benefit cannot be manipulated, reduced, or eliminated to fulfill this requirement.

i. During the Fall and Spring semesters, graduate assistants may not work more than a combined total of 20 hours per week for all appointments. However, graduate assistants may work additional hours with prior approval by the Dean of the Graduate College using Form 10 – Request to Waive a University Requirement.

j. Graduate assistants in their last semester of study should enroll only in the number of credit hours necessary to fulfill their degree requirements. Graduate assistants who have completed all degree requirements as listed on their Plan of Study can enroll only in one thesis/dissertation credit hour to complete their thesis/dissertation while remaining eligible for 100% tuition benefit. International students affected by this policy must consult with the ISSS Office regarding the Reduced Course Load requirements to assure compliance with U.S. Immigration laws.

k. A reduced enrollment status can impact disbursement of financial aid and qualification for health insurance, depending upon the rules of the lending institution and insurance provider. It is the responsibility of the graduate assistant to know the enrollment status requirements of individual lending institutions and insurance providers.

l. Exceptions to these requirements may only be made with prior approval by the Dean of the Graduate College.

Important: Teaching Assistantships and Research Assistantships

- **All credits hours covered by the Tuition Benefit must be required for the degree regardless if you have a TA/RA or both.**
- **All courses paid for with a TA/RA must be listed on the Plan of Study.**
- **Only 5000-6000 level courses are covered by Tuition waivers.**
- **Consult with your advisor to make sure all courses you enroll in (5000-6000 level) will be degree applicable. Otherwise, the course will have to be paid out of pocket**

Thesis students only

- **The 10% allowed above degree requirements for Tuition waivers is for when you have completed all your degree requirements (36 credit) and only need to be enrolled in a 1 credit Master's Thesis credit to complete your thesis writing/defense. (10% is up to 3 credits)**

Non-Thesis Option 1 and 2 and PSM-BB program.

- **Non-thesis Option 1: Degree requirement 36 credits (Tuition waiver is up to the 36 credits that are required for the degree)**

- **Non-Thesis Option 2 MST: Degree requirement is 30-36 credits. (Tuition waiver is up to the 30- 36 credits that are required for the degree)**

- **PSM-BB- Degree requirement is 34 credits. (Tuition waiver is up the 34 credits that are required for the degree)**

C. Full-Time Enrollment

Fall and Spring Terms: **Graduate students registered for a minimum of 9 credits are considered full-time**, registrations for 7 credits are considered 3/4-time, and registrations for 4.5 credits are considered half-time.

Summer Terms: **Graduate students registered for a minimum of 6 credits are considered full-time**, registrations for 4.5 credits are considered 3/4-time, and registrations for 3 credits are considered half-time.

D. Full Time Status Eligibility Guidelines (Graduate College Policy) (Form #10)

Graduate Assistants on Tuition Waiver

The Graduate College will verify enrollment status for graduate tuition benefits through Banner and direct communication with academic departments as necessary. **Graduate students with tuition waivers remain eligible for 100% tuition benefits if at least *one* of the enrollment criteria listed below is met:**

- Enrollment of a minimum of 9 credit hours in Fall/Spring semester
- Enrollment in a minimum of 1 credit hour of minimum half time-equivalent coursework (thesis credits, directed independent study, internship, practicum, etc.)
- Final semester of study (can be less than 9 credits)
- Approved Form 10 petition (Graduate College will review registration for students on tuition waivers)

See Link Below to complete the Form #10 for any courses not listed above

https://www.fau.edu/graduate/forms-services/forms/

International Students

International students who wish to register for reduced credit hours are still required to complete the Reduced Course load form and should work directly with the Center for Global Engagement.
https://www.fau.edu/global/international/forms/

VI. REGISTRATION FORM REQUIRED FOR RESEARCH AND INTERNSHIPS (i.e., Non-Course Credits)

- Students registering for any of the following (see list below) **must complete a registration form that is signed by both you and your advisor.**
- Link for the Registration Form: http://biology.fau.edu/formsandpolicies/index.php
- Send the completed and signed form to rdixon@fau.edu or bring directly to Biology Office at SC 136.

Master's Proposal (BSC 6963)

Master's Defense (BSC 6975)

Master's Thesis (BSC 6971)

Directed Independent Studies (DIR) (BSC 6917)

PSM-BB Business Internship (MAN 6946)

PSM-BB Science Internship (BSC 6946)

Master's Comprehensive Exam (BSC 6962)

VII. MASTER'S DEGREE OPTIONS AND DEGREE OPTION REQUIREMENTS

Master of Science – (Thesis Option) (36 credits)

Master of Science – (Non-Thesis Option 1) (36 credits)

Master of Science in Teaching - (MST/Non-Thesis Option 2)(30-36 credits)

Professional Science Master in Business Biotechnology - (PSM-BB)(34 credits)

Combined BS/MS with a Major in Biological Science –
(120 credits for the undergraduate degree &
33-36 credits for the MS degree).

A. Master of Science with Major in Biological Sciences (Thesis Option)

The M.S. Thesis Degree option requires a minimum of 36 total credits.

Student Curriculum Degree Requirements include the following:

1. At least half or 18 credits must be Biology Department courses (5000 or 6000 level)

2. 12 credits of graded coursework at the 6000 level (exclusive of any research credits)

3. Before students can register for Master's Thesis Proposal Seminar (BSC 6963) (i.e., student formally presenting their research proposal to their committee and subsequent approval by the committee), students doing exploratory research can take up to 6 credits, which can include:

   A) Up to 3 credits of Directed Independent Research (DIR;BSC 6917) or up to 3 credits Directed Independent Studies (DIS)/DIR taken outside of Biology. Any combination of DIR/DIS, regardless ` of source, cannot total more than 3 credits that will count toward the degree.

   B) Up to 3 credits of Master's Thesis (BSC 6971)
   NOTE: Master's Committee form#6 must be approved before you can be registered for BSC 6971.

4. Master's Proposal Seminar BSC 6963 (1 credit maximum) See Proposal Requirements section below. **Note:** Must have Masters Committee Form#6 approved before you can register for BSC 6963

5. Master's Defense Seminar BSC 6975 (1 credit maximum) (see Defense Requirements section, below)

6. Minimum of 6 credits of BSC 6971 Master's Thesis credits is required.
   ***Note:** Must turn in Master's Committee Form #6 and be approved before you can register.
   Note: No more than 12 credits of Master's Thesis credits can count toward the degree

7. Remaining courses must be at 5000 or 6000 level.

Thesis Proposal Requirements

The MS Graduate Program in Biology does not have a precise, required written thesis proposal format. Students should check with their advisor and Graduate Supervisory Committee for the format best suited to the particular discipline. Any format chosen should begin with a title page with the following: project title, student's name, and committee member names and signature lines for approval. Additional sections should include an abstract, introduction/background, objectives/research questions, proposed research and methods/procedures, expected results, and literature cited.

Although the Graduate College only reviews completed, approved theses, they do have some specific formatting requirements for the layout. Thus, it is advisable to review their requirements. Please see the link below:

http://www.fau.edu/graduate/forms-and-procedures/degree-completion/thesis-and-dissertation/index.php

Thesis Proposal Procedures

1) Send completed 1st draft of proposal to Chair of your Graduate Supervisory Committee for edits and final approval. **Please allow at least 2 months to work with your Chair,** as developing an approved draft at this point in the process can be tedious and protracted.

2) Send approved copy of your proposal to the remaining members of your committee. **Please allow the committee members a minimum of 1 month to review your proposal before any scheduled seminar date.**

3) When you send your proposal to your committee members, request available dates (minimally 1 month **from when you sent the proposal to them**) and times to consider for presenting your proposed research project.

4) **Three weeks prior to the approved proposal date by all of your committee members, contact the MS Biology Office staff to schedule the seminar.** Such advance notice is required to ensure a room can be reserved, and any necessary video-conferencing can be scheduled. **However, until the date is approved by all committee members, the office cannot submit the request to reserve a conference room**.

5) **Send a flyer to the Biology Office (who will email all faculty and graduate students) a minimum of 7 days before approved, scheduled proposal seminar date**. Post flyers around building in which the seminar will be given. **Students will have to reschedule such seminars if the timelines are not followed** (i.e., posting flyers/emailing office flyer for a seminar with less than a week's notice is not permitted).

6) After the seminar has been presented, all non-committee members exit the room. The Graduate Supervisory Committee will meet with the student, continue to ask questions, then ask the student to step outside the seminar room, and subsequently decide if the thesis proposal is approved/disapproved, or if additional editing is required. **They will then ask the student to step back into the room to notify them of their decision.**

7) **Final Paperwork for Biology Departmental Requirements:**
   a) Completed Thesis Proposal form (see link below)
      http://biology.fau.edu/pdf/MS_Thesis_Proposal_Form_2015.pdf
   b) Rubric form from each committee member. Biology Office staff will email form to student before the proposal date.
   c) Proposal form and rubric forms must be submitted to Biology Office

Thesis Defense Requirements

The final, approved thesis document will be published by the University. Although the University does allow disciplines to organize theses, to some degree based on accepted discipline-specific guidelines, there are still specific formatting requirements. The final written thesis defense must be submitted and approved by the University. **Thus, students at the defense-writing stage need to review the current University thesis requirements and are required to attend Thesis/ Dissertation Workshops**. It is the student's responsibility to make sure all requirements for the Defense and submission of the Thesis have been followed. As stated in the previous section, please see the following link:
https://www.fau.edu/graduate/forms-and-procedures/degree-completion/thesis-and-dissertation/formatting.php

Thesis Defense Procedures

1) Check Graduate College Deadlines the semester before you plan to apply to Graduate. **Links are below**. You will need to do the Application for Degree, signature page, submit dates for your defense seminar, and check for deadlines to turn in completed thesis so that you can prepare for your final semester.

   A) Application Deadline and Thesis Submission Deadlines: **https://www.fau.edu/graduate/degree-completion/deadlines/**

   B) Application to degree: **https://www.fau.edu/registrar/graduation/deg_app_cert.php**

   C) Signature Page template: **https://www.fau.edu/graduate/degree-completion/thesis-dissertation/signature-page/**

   D) Defense Announcement and Signature Page Review Submission - **https://www.fau.edu/graduate/degree-completion/thesis-dissertation/formatting/**

2) Review Thesis and Dissertation Guideline Tutorials: See link below.
   https://www.fau.edu/graduate/degree-completion/thesis-dissertation/formatting/

   NOTE: The Thesis Guide Tutorials are very important - the Graduate College will disapprove your Thesis if you do not follow the guidelines precisely which includes: correct paper, pen and formatting of the pages

3) Send completed Thesis to Chair of your Graduate Supervisory Committee for edits and final approval a minimum of 3 months before the anticipated Thesis Defense date. Specifically, if you are planning to graduate in the Fall term you should send your completed thesis to the Chair of your Committee by July 15th and for the Spring term by November 15th. (Keep in mind the winter holidays so you might want to send in earlier).

4) Once the Chair of your Committee has approved your thesis for dissemination, send copies via email to the remaining members of your committee (cc your Chair). **Allow the committee members a minimum of 4-6 weeks to review your thesis before any scheduled Thesis seminar date.**

5) **The Thesis Defense** (which serves as the Comprehensive Examination for MS Thesis students) will typically follow immediately after the seminar has been presented, requiring that all non- committee members exit the room. The Graduate Supervisory Committee will meet with the student, continue to ask questions, then ask the student to step outside the seminar room, and subsequently decide if the thesis is approved/disapproved. They will then ask the student to step back into the room to notify them of their decision. **If approved,** the student will complete the signature page (see #6). **If disapproved,** the advisor will inform the student about what needs to improve, if applicable and feasible. If the committee deems the thesis, etc. are not acceptable and corrections or alterations are not feasible, the student would be ineligible to continue in this Biology Thesis Program. They would be still eligible to switch to a non-thesis track, which would require approval by their current or new advisor.

6) **For your signature page, do not wait until the Graduate College deadline to start** looking for your committee members, Chair of Biology Department and CESCOS Dean to obtain your signatures. Finding out at the last minute that one of the required signatures is not possible because of an absent faculty member or administrator can result in a student postponing graduation until the next semester. Instead, contact them ahead of time to check for their availability.

On Graduate College Signature page:

*Please visit link below for more information on virtual signature page routing:
https://www.fau.edu/graduate/degree-completion/thesis-dissertation/signature-page/

Please note: It is the student's responsibility to ensure that the names and titles of the committee members and college officials listed on the signature page are accurate.

Questions? Please contact us at:

GraduateWriting@fau.edu | 561-297-2817

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7) **Final Paperwork for Biology Departmental Requirements**

a) Completed Thesis defense form. See link below:
https://biology.fau.edu/formsandpolicies/graduate_student.php

b) Rubric form from each committee member. Biology Office staff will email form to student before the Defense date.

c) Defense form and rubric forms must be submitted to Biology Office (SC 136)

8) **Final Paperwork for Graduate College Requirements**

See link Below to Check Graduate College website for final paperwork requirements

http://fau.edu/graduate/forms-and-procedures/degree-completion/thesis-and-dissertation/index.php

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Master's Thesis Proposal (BSC 6963) and Master's Thesis Defense (BSC6975) Policy

- Proposal and Defense Seminars cannot be completed in the same semester (This includes if you received an Incomplete. For example, you received an Incomplete in Fall and on your POS you were scheduled to do your Defense in Spring. You will be required to move your Defense to summer.

A. Master of Science with Major in Biological Sciences (Non-Thesis Option 1)

The M.S. Non-Thesis Degree option requires a minimum of 36 credits.

Student Curriculum Degree Requirements include the following:

1) At least half (or 18) credits must be Biology Department courses at 5000-6000 level.

2) Eighteen (18) of the 36 credits must be at the 6000 level or higher

3) Two (2) of the 36 credits must involve courses in which the student presented a formal seminar (Requirement can be completed in any course taken where you present Formal seminars)

4) Up to three (3) Direct Independent Research (BSC 6917) credits may be counted toward this degree (including DIR/DIS credits taken outside of Biology Department)

5) One (**1 credit maximum**) of the 36 credits must be the
*__Master's Comprehensive Exam (BSC 6962)__

6) **Students must take and pass a minimum of three (3) written comprehensive exams given by committee on designated areas within the microbiology and organismal specialties. Question types will require written responses, essay and definition format (see section VIII. Comprehensive Examination and Evaluation of Internship section below for more details).**

6) Remaining courses must be at 5000-6000

7) **The Following Courses will not count toward the Non-Thesis Option 1 Degree:**

Master's Thesis (BSC 6971)

Master's Thesis Proposal (BSC 6963)

Master's Thesis Defense (BSC 6975)

Integrative Biology PhD Program Master's Along the Way

As part of the agreement between the Biology MS program and Integrative Biology (IB) PhD program, students choosing Biology for a Master's Along the Way degree will be verified for completion of degree requirements by the Biology Department during the Graduation Audit Check. Please consult with your IB PhD advisor early in matriculation to ensure the curriculum followed satisfies the requirements for the M.S./Non-Thesis Option 1.

B. Master of Science in Teaching with Major in Biological Sciences (Non-Thesis Option 2)

The M.S.T. Degree option requires a minimum of 30-36 credits

Student Curriculum Degree Requirements include the following:

1) At least half (or 15/18) must be Biology Department courses at 5000-6000 level.

2) Fifteen (15/18) of the 30-36 credits must be at the 6000 level or higher; the remaining 15/18 credits must be at the 5000 or 6000 level.

3) Two (2) of the 30-36 credits must involve courses in which the student presented a formal seminar (requirement can be completed in any course taken where you present formal seminars).

4) Maximum of three (3) Directed Independent Research (BSC 6917) credits may be counted toward this degree (including DIR/DIS credits taken outside of Biology Department)

5) One (**1 credit maximum**) of the 36 credits must be the
   ***Master's Comprehensive Exam (BSC 6962)**

6) Students must take and pass a minimum of three (3) written comprehensive exams given by committee on designated areas within the microbiology and organism specialties. Question types will require written responses, essay and definition format (see section VIII. Comprehensive Examination and Evaluation of Internship section below for more details).

7) Students must take 6 credits of approved graduate courses in education or another cognate field if they plan to teach in high school and hold a Rank III secondary certificate (obtained independently from this
   M.S.T. degree), or if the student intends to teach at the college level.

8) Six (6) additional credits of Internship (EDG 6940) are required, except for those with two years of teaching experience at a secondary school or junior college level. Students enrolled in EDG 6940 (6 credits) may choose one of the following to complete the internship and fulfill the course requirements :
   - *Do an internship with one of the local public schools (verified by local school contacts). There is no form to be completed, but rather the student independently lines up an internship opportunity. Once confirmed, the Biology Department will contact the FAU Education Department requesting permission for the student to register for the Internship, EDG 6940. At the end of the term in which the student registers for the internship, the FAU Education Department will contact the Biology Department to verify the student has completed the internship successfully so that a satisfactory grade can be applied. This latter confirmation is done based on the teacher/school in which the student does the internship and who verifies in writing that the internship was completed.
   - *Teach a laboratory course in the Biology Department (verified by the lab coordinator for time, effort and teaching responsibilities)

9) The Following courses will not count toward the Non-Thesis Option 2 Degree:
   Masters Thesis (BSC 6971)
   Masters Thesis Proposal (BSC 6963)
   Masters Thesis Defense (BSC 6975)

C. Professional Science Master (PSM) in the Business of Biotechnology (BB)

The PSM - BB Degree Option requires a total of 34 credits.

Core Courses - 10 credits required		
Venture Creation	ENT 6016	3
Biotechnology Business Development	ENT 6196	3
*Professional Science Master's (P.S.M.) in Business Biotechnology - Scientific Internship	BSC 6946	2
*Professional Science Master's (P.S.M.) in Business Biotechnology -Business Internship	MAN 6946	2

* Each internship will last one semester. One internship will be science oriented with the student working directly with research scientists. The second will involve working on the business and administrative side of the company or institute, including technology transfer and business development offices.

** To enroll in PSM internship credits see registration form section VI.

Science Courses -15 credits required ***Choose from the list below. May require instructor permission or prerequisites. ******		
Biochemistry of the Gene	BCH 5415	3
Advanced Biochemistry	BCH 6740	3
Laboratory Methods in Biotechnology	BSC 6408L	3
Practical Cell Neuroscience	BSC 6417C	3
Computer Graphics for Biologists	BSC 6455	3
Bioinformatics	BSC 6458C	4
Scientific Communication (Note: Priority enrollment given to Integrative Biology Ph.D. students)	BSC 6846	3
Special Topics	BSC 6936	1-3
Advanced Molecular Genetics of Aging	PCB 5245	3
Advanced Genetics Lab	PCB 5064L	3
Genes and Development	PCB 6595	3
Advanced Cell Physiology	PCB 6207	3
Advanced Immunology	PCB 6236	3
Climate Change: Ecosystems to Human Health	PCB 6409	3
RNS Biology and Disease	PCB 6525	3
Reproductive Endocrinology	PCB 6804	3
Advanced Neurophysiology Lab	PCB 6837L	3

Cellular Neuroscience and Disease	PCB 6849	3
Special Topics, including Macromolecular Structure and Function and Protein Misfolding and Disease (3 credits each)	PCB 6933	6
Principles of Neuroscience	PSB 6037	3
Developmental Neurobiology	PSB 6515	3
Human Neuroanatomy	ZOO 6748	3
Structural Biochemistry	CHM 6351	3
Instrumentation	CHM 6157	3
Macromolecules and Human Disease	GMS 6301	3
Host Defense and Inflammation	MCB 6208	3
Advanced Molecular and Cell Biology	PCB 5532	3
Human Genetics	PCB 6665	3
Autonomic Function and Diseases	BMS 6523	3
Molecular Basis of Disease and Therapy	GMS 6302	3
Neurobiology of Addiction	PCB 5844	3
Molecular Basis of Human Cancer	PCB 6235	3
Problem-Based Immunology	PCB 6238	3
Tumor Immunology	PCB 6239	3
Adult Neurogenesis	PCB 6846	3
Advanced Topics in Biochemistry	BCH 6930	3
Brain Diseases: Mechanism and Therapy	BMS 6736	3
Advanced Plant Biotechnology	BOT 6735C	3
Advanced Drug Development	CHM 6277C	3
Drug Design	CHM 6278	3
Advanced Topics in Biochemistry	CHM 6380	3
Advanced Drug Formulation	CHM 6279C	3
Pharmacology	GMS 6513	3
Special Topics	ISC 6930	1-3
Neurophysiology	PCB 6835C	3
Special Topics	PCB 6933	1-8

** The science courses are electives, and their selection will vary depending on student demand, resources, faculty, and new courses being developed. The list of science courses above would be appropriate for a student in this program. Other science courses can be taken as science electives with the approval of the faculty advisor.

Business Courses - 9 credits required ***Choose from list below.***		
Financial Accounting Concepts	ACG 6027	3
Technology Commercialization Strategies	ENT 6186	3
Developing and Marketing Innovations	MAR 6837	3
Advanced Marketing Management	MAR 6815	3
Marketing Functions/Processes	MAR 6055	3
Entrepreneurship and Venture Capital	ENT 6428	3
Leadership and Organizations	MAN 6296	3
Human Resources Management	MAN 6156	3
Advanced Business Plan Development	ENT 6116	3
Project Management	MAN 6581	3
Cross-Cultural Management and Human Resources	MAN 6609	3

Important comment about courses. The list of business courses shown above reflect those currently listed in the University Catalog. Availability will vary depending on the offerings in each department. New courses may have been added since this information was published. Appropriate business courses can be taken as business electives with the approval of the student's graduate program advisor.

For additional information about this degree program,
contact David Binninger, binninge@fau.edu.

D. BS/MS - Molecular Biology and Biotechnology Fast Track

The combined degree program is 153-156 credits, 120 for the undergraduate degree and 33-36 for the master's degree. Students complete the undergraduate degree first, taking no more than 12 credits of graduate coursework in their senior year, which will then be used to satisfy both degrees.

See Biology website for undergraduate credit requirements:

Graduate Level requirements.

1. **6 Research credits- BSC 6971**

   An important element of this program is the hands-on laboratory experience. This requirement is met by the formal Laboratory courses as well as individual training in a research laboratory, an experience that cannot be duplicated in laboratory courses. Six credits of Master's Thesis (BSC 6971) must be completed. A formal thesis is not required, but the research must be presented as both a written report and oral presentation to an advisory committee.

2. **15 graduate Level credits**

   In addition to the 12 credits of graduate courses that fulfill requirements for the B.S. degree, the student must take an additional 15 credits of graduate courses from the list shown below or other graduate courses approved by their advisory committee.

Advanced Biochemistry	BCH 6740	3
Bioinformatics	BSC 6458C	4
Directed Independent Study	BSC 6917	0-3cr
Instrumentation	CHM 6157	3
Advanced Molecular Genetics of Aging	PCB 5246	3
Advanced Immunology	PCB 6236	3
Cellular and Molecular Neuroscience	PSB 6345	3
Systems and Integrative Neuroscience	PSB 6346	3 or
Neurophysiology	PCB 5835C	3
Advanced Neurophysiology Lab	PCB 6837L	3
Cellular Neuroscience and Disease	PCB 6849	3
Principles of Neuroscience	PSB 6037	3
Practical Cell Neuroscience	BSC 6417C	3
Human Neuroanatomy	ZOO 6748	3

VIII. COMPREHENSIVE EXAMINATIONS and EVALUATION OF INTERNSHIPS

Completion of the Master's degree **requires that all Thesis, Non-Thesis & MST students pass a Comprehensive Examination**, to be administered bythe student's Graduate Supervisory Committee.

1) For students in the M.S./Thesis Option, the **Comprehensive Examination consists of a thesis defense, which focuses on the completed research project and the student's relevant knowledge base**.

2) For Students in the PSM-BB, the **Comprehensive Examination consists of a Business and Science Evaluation of your Internship** (See Biology office for copy of evaluation form)

3) For students in the M.S./Non-Thesis Options #1 and #2, the **Comprehensive Examination consists of a traditional, written test to ensure students have a broad knowledge base in Biology**. The student and their Graduate Supervisory Committee will select the **3** "specialty areas" **covered in the exams** fromthe list below.

For Complete instructions and to download required form:
http://biology.fau.edu/formsandpolicies/index.php

Microbiology specialty areas:
Bacteriology
Cell Biology
Immunology
Molecular Genetics
Virology

Organismal specialty areas:
Anatomy and Development
Behavioral Biology
Ecology
Evolutionary Biology
Neuroscience
Physiology
Systematics

Written Comprehensive Examination Format: To ensure that all M.S./Non-Thesis Options #1 and #2 students are examined in a thorough and equitable manner within the 3 specialty areas, the following are acceptable exam formats and expectations:

a) Each written exam will be administered on the date agreed to by the student and their committee members.
b) Each exam must cover one of the 3 chosen specialty areas (i.e., two committee members cannot cover the same specialty area).
c) **Exams will consist of questions unknown to the student prior to administering the exam.**
d) **Question types require a written responses; e.g. essay and definition format**. In addition to expecting a broad knowledge base covered within the 3 specialty areas, assessing written communication skills of these students is also very important.
e) **Exams should be of sufficient rigor and coverage thereby typically requiring significant study efforts by students** (which is why students are required to contact committee members the term prior to the actual exams). Committee members should provide students with reading and supplemental study suggestions upon request.
f) The assumption will be that closed-book format will be used for the exam. If open-book format is used, such exams should be of sufficient rigor to be comparable to a closed-book exam. In either case, a specific time frame must be established when the student and committee member initially meet (i.e., term before) to schedule the exam (e.g, 3 hours for a closed-book exam; due in 24 hours for an open-book exam).
g) **Previous or current course work (and associated exams) cannot substitute for the Comprehensive Exams.**
h) **Research/summary/review papers cannot substitute for the Comprehensive Exams**. Such papers, however, may supplement the written exam, if this is required by a committee member (who must articulate this to the MS Graduate Programs in Biology office when the student schedules the exam).

A. Procedures for Scheduling/Completing Comprehensive Exams - M.S./Non-Thesis *Option #1 and 2*

1) **During the term prior (or earlier) to the term in which the exams will be administered,** students should contact committee members "individually" to ask for guidance (e.g., references, books) regarding how best to study for the designated subject area to be covered.

2) Student should also schedule a date(s) "individually" with each committee member **with a minimum of two weeks separating each exam**, given the comprehensive nature of each exam.

Following are the deadlines for completing all exams for each term:

Fall term = November 15

Spring term = April 15

Summer term = July 15

3) Once all of the exams are scheduled, and prior to the beginning of the term in which the exams will be given, students are required to send an email to the MS Graduate Programs in Biology office (rdixon@fau.edu) with the following information

(Copy and paste the form information below into the email message):

EXAM 1 - Content Area 1 = (see list above); Committee member name_____;

Exam Date_____ Format___closed-book___open-book; Time restrictions_____

EXAM 2 – Content Area 2 = (see list above); Committee member name_____;

Exam Date_____ Format___closed-book___open book; Time restrictions_____

EXAM 3 – Content Area 3 = (see list above); Committee member name_____;

Exam Date_____ Format___closed-book___open book; Time restrictions_____

Exam dates cannot be changed without written consent from the professor administering the exam

4) The MS Graduate Programs in Biology will then review the information for approval. Once approved, students and committee members will be notified. **Students cannot take any comprehensive exam without such prior approval.**

5) Once approved, register for Master's Comprehensive Exam (BSC 6962) for semester exams are being taken

6) **Failure to pass any of the 3 examinations (i.e., each committee member's exam) will require that the student be re-examined for the failed exam.** Failure to successfully pass the 2nd attempt would result in the student being ineligible to continue in this Biology Non-Thesis Program. They would still be eligible to switch to a thesis track, which would require approval by their current or new advisor.

7) **Complete Comprehensive Examination Form** (available at Biology Department SC 136 or on Biology Website (http://biology.fau.edu/formsandpolicies/index.php)

8) Committee members must forward scanned copies of both the exam questions and the student's answers to the MS Graduate Programs in Biology office (rdixon@fau.edu) for Graduate College and/or Departmental verification. As with other grades, documentation must be retained for a minimum of 5 years.

IX. CHANGE of DEGREE OPTIONS

Students are admitted to the MS graduate program in Biology for one of the 5 degree options. However, the Graduate College considers there to be only **3 distinct Biology MS Degrees**:

1) M.S./Thesis, M.S./Non-Thesis/Option #1, BS-MS
2) M.S./Non-Thesis Option #2 (Master in Teaching)
3) PSM-BB

If circumstances should change and a student wishes to change their degree between the 5 Biology Master's Degree options, after consultation with an agreement by their Graduate Supervisory Committee, you must complete the below items

Items to complete to change degree:

1. Fill out the Graduate College Change of Program form#16
2. Update Graduate Student Faculty Advisor
3. Verification form must be completed and signed by your new advisor
4. New Committee Formation form must be completed.
5. Make updates to Plan of Study

X. LEAVE OF ABSENCE

Graduate students who find it necessary to temporarily suspend their studies may apply for leave of absence from graduate study. Leave of absence is intended for students who are unable to pursue their studies at all, rather than for students who are actively working on a thesis or dissertation after completing coursework. Leave of absence is approved by the Graduate College on the basis of the recommendation of the student's faculty advisor, department chair and college dean. To apply for a leave of absence, students use a Form 10-Request to Waive a University Requirement.

Degree-seeking students returning after an absence of more than one year will be subject to the following:

1) File a new graduate admissions application with appropriate documentation.
2) Re-establish Florida residency for tuition purposes.
3) Be in good academic standing (eligible to return) at FAU and at any institution attended since the last period of enrollment at FAU.
4) Provide official transcripts to the Graduate College from any institution attended since the last period of enrollment at FAU.
5) Submit proof of conformity to the Measles Immunization Policy of the State University System for graduate students under the age of 40 who have not previously submitted this information.
6) Students who were enrolled without being fully admitted into a graduate degree program will not be eligible to return.
7) Returning students will be admitted under the catalog guidelines in place at the time of re-admission.

XI. GRIEVANCE AND APPEAL PROCEDURES

The Biology Department recognizes that these guidelines cannot anticipate all circumstances that may affect a student's progress in the Program. Therefore, exceptions to these regulations may be sought by the student through a petition submitted to the MS Graduate Programs in Biology Committee. If this committee does not resolve the matter to the student's satisfaction, he/she may bring the matter before the Chair of the Biology Department who, in consultation with the faculty, will make a final decision.

XII. SCHEDULES, CHECKLIST, AND DEADLINES FOR THE MASTER'S DEGREE OPTIONS

Following are guides to assure that you are making adequate progress toward the completion of your respective degree. The Graduate Program Committee will also base its evaluation of your annual report on these schedules

Master of Science Thesis Guidelines
(36 credits)

Semester I

- Consult advisor and take courses that fulfill your degree requirements (see Specific requirements for MS Thesis option)
- Enroll in courses- we recommend to take 6 credits of graduate course (**5000-6000**) and up to 3 credits of Directed Independent Research (BSC 6917) or up to 3 credits of Directed Independent Studies (DIS)/DIR taken outside of Biology or 2 credits of DIR and a seminar course. Make sure to consult with your advisor to make sure all courses are degree applicable.
- Decide on your Thesis Topic
- Choose Committee Members in consultation with Advisor (see Advisor & Graduate Supervisor page 9)
- Complete supervisory Committee Approval form. (see link below).
  https://www.fau.edu/graduate/forms-services/forms/
- Complete Plan of Study (must submit by the end of 1st semester) Visit Graduate College website for Instructions:
  https://www.fau.edu/graduate/degree-completion/plan-of-study/

Semester II

- Consult advisor and take courses that will fulfill degree requirements (see Specific requirements for MS Thesis option)
- Enroll in courses, We recommend to take 6 credits of graduate courses (5000-6000 level) and up to 3 credits of Masters Thesis BSC 6971
  IMPORTANT: MS Committee Member form#6 must be fully approved before you can take Master's Thesis Credits (BSC 6971) See Advisor & Graduate Supervisor page 9
- Start **Thesis Proposal writing**–see Thesis Proposal guidelines

Semester III

- Consult Advisor and register for **Master's Thesis Proposal seminar (BSC 6963)** (1 cr) **Present your** Thesis Proposal See Proposal guidelines (Must have MS Committee Member form#6 approved to take proposal credit)
- Take courses that fulfill degree requirements (see specific requirements for MS Thesis option)
- Submit **"Revised" Plan of Study**, if necessary (Please visit Graduate College website for instructions) https://www.fau.edu/graduate/forms-and-procedures/index.php
- IMPORTANT: Review Thesis **Formatting** Guidelines. **https://www.fau.edu/graduate/degree-completion/thesis-dissertation/**
- **Finish writing your thesis defense** and send to Committee Chair-See Thesis Defense Guidelines

Semester IV

- **Apply for graduation** early in term (see specific deadline date published on Graduate College Website)
  https://www.fau.edu/graduate/degree-completion/deadlines/
- Consult Advisor and register for **Master's Thesis Defense seminar (BSC 6975)** (1 cr)
- **Present your thesis results to the department** (see Thesis Defense Guidelines)
- See **Thesis Submission Checklist** link below.
  https://www.fau.edu/graduate/documents/thesis-dissertation-submission-checklist.pdf
- **Submit your thesis to the Graduate College (see deadline date; Don't miss it!)**

Master of Science/Non-Thesis (36 Credits)

and

M.S.T./Master in Teaching (30-36 Credits)

Semester I

- Consult advisor and take courses that fulfill degree requirements (see Specific requirements for Non-Thesis and MST options)
- **Choose committee members** in consultation with advisor (see Advisor & Graduate Supervisory),
- **Review Comprehensive Examinations** requirements; select 3 areas within one specialty group; committee members chosen should be based on the specialty areas selected for the Comprehensive Examinations (see section III-D)
- Plan of Study submit by **end of the 1st semester**
  Instructions: **https://www.fau.edu/graduate/degree-completion/plan-of-study/**

Semester II

- Take courses that fulfill degree requirements (see Specific requirements for Non-Thesis and MST options)
- Complete **MS Supervisory Committee Membership Form:** http://biology.fau.edu/formsandpolicies/index.php
  For MST students, begin making arrangements for the **Education Internship**

Semester III

- Take courses that fulfill degree requirements (see Specific requirements for Non-Thesis and MST options)
- Submit **"Revised" Plan of Study**, if necessary (Please visit Graduate College website for instructions: **https://www.fau.edu/graduate/degree-completion/plan-of-study/**
- **Contact committee members to schedule Comprehensive Examinations** (see deadlines for each term) **which should be taken in the 4th semester** (see Comprehensive Examinations: Written Comprehensive Examination Format for format requirements and to schedule dates for exams) http://biology.fau.edu/formsandpolicies/index.php
- **Send (via email) Comprehensive Exam schedule to Biology Office for review and approval**

Semester IV

- **Apply for graduation** early in term (see specific deadline date published in Schedule of Courses)
  https://www.fau.edu/graduate/degree-completion/deadlines/
- Register for Master's Comprehensive Exam (BSC 6962) and take the three (3) required Comprehensive Examinations (see page 29) and complete Comprehensive Examination Form (on Biology Website: http://biology.fau.edu/formsandpolicies/index.php)
- Complete course work

Professional Science Master (PSM) in the Business of Biotechnology (34 Credits)

Semester I

- Consult advisor (Dr. Binninger) and take courses that fulfill degree requirements (see Specific requirements for PSM-BB option)
- Complete Plan of Study (must submit by end of 1st semester).
- Visit Graduate College website for online instructions:
  https://www.fau.edu/graduate/degree-completion/plan-of-study/

Semester II

- Take courses that fulfill degree requirements (see Specific requirements for PSM-BB option)
- Consult with Advisor (Dr. Binninger) to **set up Internships**
- **Send CV/Resume** to Advisor (Dr. Binninger)

Semester III

- Take courses that fulfill degree requirements (see specific requirements for PSM-BB)
- **Take Business or Science Internship** (2 credits) (Biology Office has registration from which must include synopsis of work responsibility)
- Have Supervisor of Internship **Complete Evaluation form at end of internship** (1 week before grades are due)
- Submit **"Revised" Plan of Study**, if necessary (Please visit Graduate College website for instructions:
  https://www.fau.edu/graduate/degree-completion/plan-of-study/

Semester IV

- **Apply for graduation** early in term (see specific deadline date published in Schedule of Courses)
  https://www.fau.edu/graduate/degree-completion/deadlines/
- Take courses that will fulfill degree requirements (see specific requirements for PSM-BB)
- **Take Business or Science Internship** (2 credits) (Biology Office has registration form which must include synopsis of work responsibilities)
- Have Supervisor of Internship Complete Evaluation form at end of internship (1 week before grades are due)

Masters Thesis Checklist
36 credits Total Required
1/2 Credits(18) must be taken in Biology Dept.

Required courses

12 @ 6000 level graded	Name of course/Prefix	Semester taken	Credits	Biology Course Yes/No
		Required Total	12	

Notes for BSC 6971:

Required: 6 credits Minimum (Must have approved Form# 6 in order to register for thesis credits)

Maximum total of 12 credits can be counted toward degree

Up to 3 credits of BSC 6971 can be taken before proposal

BSC 6971	Masters Thesis	Semester Taken	Credits
BSC 6971	Masters Thesis		
BSC 6971	Masters Thesis		
BSC 6971	Masters Thesis		
BSC 6971	Masters Thesis		
BSC 6971	Masters Thesis		
		Total	
BSC 6963	Masters Thesis Proposal		1 credit

Thesis Formatting Guidelines https://www.fau.edu/graduate/degree-completion/thesis-dissertation/

BSC 6975	Masters Thesis Defense		1 credit
			Total 2

Remaining courses must be at 5000-6000 level	Name of course/Prefix	Semester taken	Credits	Biology Course Yes/No

NOTE: 3 DIR (BSC 6917) Max inluding DIR credits taken outside of BIology)

1/2 credits taken in (18) Biolgy

verified_____

Degree total 36 _____

Non-Thesis Checklist
36 credits Total Required
1/2 Credits(18) must be taken in Biology Dept.

Required courses

18 @ 6000 level graded	Name of course	Semester taken	Credits	Biology Course Yes/No
			Total	18

(Courses you have taken that you presented a formal seminar)

FormalSeminar-1			
FormalSeminar-2			

Remaining courses must be at 5000-6000 level	Name of course	Semester taken	Credits	Biology Course Yes/No

NOTE: DIR 3 credits Maximum
1/2 credits (18) Biology

Verified_____

Verified_____

		Date	Exam Subject
Comprehensive Exams:	Exam 1		
	Exam 2		
	Exam 3		

Degree total 36

MST Checklist
30-36 credits Total Required
1/2 Credits(15-18) must be taken in Biology Dept.

Required courses

15-18 @ 6000 level graded	Name of course	Semester taken	Credits	Biology Course Yes/No
	Courses that you have taken that you presented a Formal Seminar in		Total 18	
Formal Seminar-1				
Formal Seminar-2				

remaining courses must be at 5000-6000 level				Biology Course Yes/No
3 DIR Maximum				

Education Requirements: 6 credits-if student plans to teach in a high school or hold a Rank III Secondary Certificate (Obtained independently from this M.S.T Degree) or if the student intends to teach at the college level

Six(6) additional Credits of Education Internship (EDG 6940) are required,

except for those with two years of teaching experience at a secondary school or junior college level

1. **Enroll in EDG 6940(6 credits) and pick one of the below.**

A) Do an internship with one of the local public schools **Read Regulations for full requirements for doing Internship at local school)**

B) Teach a laboratory course in the Biology Department (verified by the lab coordinator for time effort and teaching responsibilities).

		Date	Exam Subject
Comprehensive Exams:	Exam 1		
	Exam 2		
	Exam 3		

Degree total 30-36

PSM Checklist

34 credits Required

Core Courses (10 credits required)		Term	Credits	Grade
Biotechnology Business Development	**ENT 6196**			
Venture Creation	**ENT 6016**			
Business Internship 2 credits	**MAN 6946**			
Science Internship 2 Credits	**BSC 6946**			
Total Core credits			**10**	
Business Courses (9 credits required) Pick from list below		**Term**	**Credits**	**Grade**
Financial Accounting Concepts (ACG 6027)	**ACG 6207**			
Technology Commercialization Strategies (ENT 6186)	**ENT 6186**			
Entrepreneurship Venture Capital (ENT 6428)	**ENT 6428**			
Developing and Marketing Innovation (MAR 6837)** Prerequisite: Admission to an FAU graduate program and MAR 6815	**(MAR 6837)**			
Advanced Marketing Mgmt. (MAR 6815) ** Prerequisite: Graduate standing or MAR 6055 or equivalent	**(MAR 6815)**			
Marketing Functions/Processes (MAR 6055)	**(MAR 6055**			
Leadership and Organizations (MAN 6296)	**MAN 6296**			
Human Resources Management (MAN 6156)	**MAN 6156**			
Advanced Business Plan Development (ENT 6116)	**ENT 6116**			
Cross Cultural Management (MAN 6609)	**MAN 6609**			
Project Management (MAN 6581)	**MAN 6581**			
		Total 9 credits		
Science Courses (15) Credits		**Term**	**Credits**	**Grade**
Biochemistry of the Gene	BCH 5415			
Advanced Biochemistry	BCH 6740			
Laboratory Methods in Biotechnology	BSC 6408L			
Practical Cell Neuroscience	BSC 6417C			
Computer Graphics for Biologists	BSC 6455			
Bioinformatics	BSC 6458C			
Scientific Communication (Note: Priority enrollment given to Integrative Biology Ph.D.)	BSC 6846			
Special Topics	BSC 6936			
Advanced Molecular Genetics of Aging	PCB 5245			
Advanced Genetics Lab	PCB 5064L			

Genes and Development	PCB 6595			
Advanced Cell Physiology	PCB 6207			
Advanced Immunology	PCB 6236			
Climate Change: Ecosystems to Human Health	PCB 6409			
RNS Biology and Disease	PCB 6525			
Reproductive Endocrinology	PCB 6804			
Advanced Neurophysiology Lab	PCB 6837L			
Cellular Neuroscience and Disease	PCB 6849			
Special Topics, including Macromolecular Structure and Function and Protein Misfolding	PCB 6933			
Principles of Neuroscience	PSB 6037			
Developmental Neurobiology	PSB 6515			
Human Neuroanatomy	ZOO 6748			
Structural Biochemistry	CHM 6351			
Instrumentation	CHM 6157			
Macromolecules and Human Disease	GMS 6301			
Host Defense and Inflammation	MCB 6208			
Advanced Molecular and Cell Biology	PCB 5532			
Human Genetics	PCB 6665			
Autonomic Function and Diseases	BMS 6523			
Molecular Basis of Disease and Therapy	GMS 6302			
Neurobiology of Addiction	PCB 5844			
Molecular Basis of Human Cancer	PCB 6235			
Problem-Based Immunology	PCB 6238			
Tumor Immunology	PCB 6239			
Adult Neurogenesis	PCB 6846			
Advanced Topics in Biochemistry	BCH 6930			
Brain Diseases: Mechanism and Therapy	BMS 6736			
Advanced Plant Biotechnology	BOT 6735C			
Advanced Drug Development	CHM 6277C			
Drug Design	CHM 6278			
Advanced Topics in Organic Chemistry	CHM 6380			

Advanced Drug Formulation	CHM 6279C			
Pharmacology	GMS 6513			
Special Topics	ISC 6930			
Neurophysiology	PCB 6835C			
Special Topics	PCB 6933			
		Total Science	**15**	
Total credits required for Degree			**34**	