

Department of Biological Science
Charles E. Schmidt College of Science
Boca Raton Campus, SC 136
Tel. 561-297-3320, FAX 561-297-2749

Biology BS/MS Requirements



Molecular Biology and Biotechnology Fast Track

South Florida is on a path toward new employment opportunities in the area of biotechnology. The world-class Scripps Research Institute is building a new campus (Scripps Florida) in Jupiter. Other established biomedical research institutes, as well as start-up companies, are either planning or exploring the possibility of relocating to south Florida. All of these institutes and companies will be recruiting research associates. The Department of Biological Sciences has initiated a fast-track program leading to the Masters degree in five-years. Competition for jobs with these institutes and companies will be keen; Our Masters degree will be designed to make students more competitive for these positions.

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.

Requirements, Eligibility and Prerequisite Coursework for Transfer Students

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.

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 specific program requirements below.

Prerequisite Coursework for Transfer Students

Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the Intellectual Foundations Program) and requirements for the college and major. Lower-division requirements may be completed through the A.A. degree from any Florida public college, university or community college or through equivalent coursework at another regionally accredited institution. Before transferring and to ensure timely progress toward the baccalaureate degree, students must also complete the prerequisite courses for their major as outlined in the [Transfer Student Manual](#).

All courses not approved by the Florida Statewide Course Numbering System that will be used to satisfy requirements will be evaluated individually on the basis of content and will require a catalog course description and a copy of the syllabus for assessment.

Requirements and Eligibility

Students would typically begin taking graduate courses in their senior year that would apply to both their B.S. and M.S. degrees. The program can be completed in five years by allowing 12 credits of graduate-level courses to fulfill course requirements for both the B.S. and M.S. degrees. Students must maintain a minimum GPA of 3.0 to remain in the program.

The program requires completion of a research project (6 credits). While there is no formal requirement for a thesis, the research must be described in both a written report and an oral presentation to an advisory committee.

Students are expected to work in a research lab during their last two years of the program completing Directed Independent Study and Thesis credits. The research may be completed in the laboratory of any member of the Center for Molecular Biology and Biotechnology (CMBB). Additionally, the research may be done under the direction of a faculty member in Biological Sciences if the project is appropriate to molecular biology and biotechnology. Faculty in other departments may mentor students with approval of the director or the chair.

Prospective students must formally apply to this graduate program and meet all admission requirements: a minimum undergraduate science GPA of 3.0 and GRE scores of at least 151 (verbal) and 148 (quantitative). Students should take the GRE before the end of their junior year.

Core Curriculum:

The core curriculum for students in the combined B.S./M.S. degree program is the same as for all Biological Sciences students in a bachelor of science (B.S.) program. The difference in this combined program is the emphasis on Molecular Biology and Biotechnology

Molecular Biology and Biotechnology Core and Elective courses

Biological Science

General Microbiology with Lab	MCB 3020, MCB 3020L	4 credits
Genetics	PCB 3063	4 credits
Biotechnology I Lab	BSC 4403L	2 credits
Biotechnology II Lab	BSC 4427L	2 credits
Practical Cell Neuroscience	PCB 4843C	3 credits
Molecular Genetics	PCB 4522	3 credits
Genetics Lab	PCB 4067L	3 credits
Molecular Genetics of Aging	BSC 4022	3 credits
Immunology	PCB 4233	3 credits
Cellular Neuroscience and Disease	PCB 4842	3 Credits
Plant Biotechnology	BOT 4734 C	3 credits

Chemistry:

Organic Chemistry II	CHM 2211	3 credits
Organic Chemistry Lab	CHM 2211L	2 credits

Completion of the courses listed above as well general education courses required of all students will fulfill the B.S. requirements in the-Molecular Biology and Biotechnology track in addition to the 15 credits identified in the Biotechnology certificate program. Those six courses must also be taken to fulfill the B.S./M.S. program.

Graduate Courses that can count toward both B. S. and MS Requirements:

Pick 12 credits from the list below

Advanced Biochemistry	BCH 6740	3 credits
Bioinformatics	BSC 6458C	4 credits
Directed Independent Study	BSC 6905	1- 3 credits
Advanced Molecular Genetics of Aging	PCB 5246	3 credits
Instrumentation	CHM 6157	3 credits
Advanced Immunology	PCB 6236	3 credits
Neuroscience I	PSB 6345	3 credits
Neuroscience II	PSB 6346	3 credits
Or		
Neurophysiology	PCB 5853C	3 credits
Advanced Neurophysiology Lab	PCB 6837L	3 credits
Cellular Neuroscience and Disease	PCB 6849	3 credits
Principles of Neuroscience	PSB 6037	3 credits
Practical Cell Neuroscience	BSC 5417C	3 credits
Human Neuroanatomy	ZOO 6748	3 credits

Students who complete these courses but decide not to pursue the M.S. degree would be required to take one additional 3-credit elective (approved by their faculty advisor) to fulfill the B.S. requirements.

Biology Master's Program Admission Requirements

1. Undergraduate science GPA: 3.0 or higher
2. Minimum GRE Scores: Verbal 151 Quantitative 148

Supplemental information:

- A. Personal statement of career goals and how the applicant feels this training will help achieve those goals.
- B. Three letters of recommendation with at least one from a former professor
- C. Biology Faculty Verification Form (see link below to download form)
<http://biology.fau.edu/formsandpolicies/index.php>

Send Supplemental information to: Florida Atlantic University
777 Glades Road
Biological Science Department SC 136
Boca Raton, Florida 33431
Attention: Biology Masters Program

Degree Requirements

The program requires a total of 33 -36 credits.
Must Maintain a 3.0 GPA

Research – 6 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.

Additional Graduate level Courses – 15 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 above or other graduate courses approved by their advisory committee.

Comment on Total Credits

A student could complete the requirements of this program and earn both the B.S. and M.S. degree with a minimum of 153-156. Many students will likely finish with more credits.

For Additional information and updates see current catalog.

Combined Bachelor's to Master's Degree Student Instructions

[Combined bachelor's to master's degrees](#) offer undergraduate students the opportunity to earn master's credits along their journey to completing a bachelor's degree.

Student Eligibility

- Must be currently enrolled in an FAU bachelor's degree program and have junior or senior status.
- Must have a GPA of 3.0 or higher.
- Must meet all other admissions criteria for the graduate degree program.
- Must speak to assigned academic advisor to determine if a combined degree program is an option for you.
- Complete the [Combined Program: Graduate Admission](#) application. See below for details.

Ready to Apply?

Begin the application process by completing the Combined Program: Graduate Admission application and submitting the completed application to your undergraduate academic advisor.

Link for Application: <http://www.fau.edu/graduate/pathways.php#am>

Make sure to meet with a financial aid representative to understand the changes that will take place after the [Combined Program: Graduate Admission](#) application is processed. The application must be signed and dated by a Financial Aid Officer.

Supplemental Documentation (send to Biological Science Department)

1. Personal statement of career goals and how the applicant feels this training will help achieve those goals.
2. Three letters of recommendation with at least one from a former professor
3. Biology Faculty Advisor Verification Form (see link below to download form)

<http://biology.fau.edu/formsandpolicies/index.php>

Application Fee: A \$30, non-refundable application fee is required. Payment can only be submitted by check to the Graduate College. Please include your Z Number on the check to match with your application. Payments can be submitted to:

Florida Atlantic University - Graduate College
777 Glades Road
Student Support Services - SU 80, Room 101
Boca Raton, FL 33431-0991

What's the process?

Student: Complete sections I, II, & IV [Combined Program: Graduate Admission](#) application. As a reminder the application must be signed and dated by a Financial Aid Officer.

Academic Advisors: Sections III & V of the application will be reviewed, signed and dated by the advisors of the program.

Graduate College: Section VI will be processed and dated by a Graduate College Admission staff member.

Graduate Status: Students will not have graduate status until the undergraduate degree is conferred

.Award of Degrees: Students must apply for their bachelor's degree as soon as the degree requirements have been completed. The bachelor's degree and master's degree cannot be awarded in the same term.

Contact Us

GraduateCollege@fau.edu

561.297.3624

FAU Graduate College
SU 80, Room 101
Boca Raton, FL 33431

What Funding is Available for my Pathway to Graduate Education?

<http://www.fau.edu/graduate/pathways.php>

Pathways Scholarship

This scholarship will award up to \$2,000 to eligible FAU students enrolled in combined or advanced standing graduate degree programs. The scholarship is distributed in two increments of \$1,000 during the first and last semester of the graduate program. Students must apply during the junior year of undergraduate study. <http://www.fau.edu/graduate/pathways.php>

Bright Futures

Did you know you may be eligible to use your Bright Futures scholarship towards graduate school? Florida Academic Scholars earning a baccalaureate degree in seven semesters or fewer (or the equivalent in credit hours) may receive funding for one term of graduate study, up to 15 semester hours, paid at the undergraduate rate. For more information, please visit the [Florida Bright Future's website](#).

Did you earn college credits in high school?

If you dual-enrolled in high school, earning college credits, and will complete your baccalaureate degree early, use Bright Futures funds to earn a graduate degree in one of the accelerated masters programs.

Graduate Assistantships

What's a Graduate Assistantship?

Graduate Assistantships are intended to provide paid learning opportunities to graduate students that will prepare them for their future careers. Benefits can include a partial or full tuition waiver and an hourly stipend. You can be mentored by professors and other experts as you teach university classes, work in a lab, or participate in other learning opportunities beneficial to your career. Approximately one in four graduate students receives assistantships and fellowships.

Visit our [Graduate Assistantships](#) webpage below for more information.

<http://www.fau.edu/graduate/tuition-benefits/index.php>

Fellowships and Awards

A number of fellowships and awards are available for graduate students. Fellowships can be university awarded, federally funded, or offered by external organizations. The Graduate College offers several fellowships to graduate students.

Visit our [Fellowships and Awards](#) webpage for more information.

<http://www.fau.edu/graduate/current-students/fellowships-and-awards.php>

Military Benefits

There are special student benefits, aid, and services available for active military members and veterans. Contact the FAU Department of Military and Veterans Affairs for more information at fau.edu/vets.

Financial Aid

Graduate students may also be eligible for financial aid such as grants, loans, and work study. Visit our [Financial Aid](#) webpage below for more information. <http://www.fau.edu/finaid/>