FLORIDA ATLANTIC UNIVERSITY

# NEW/CHANGE PROGRAM REQUEST
## Undergraduate Programs

UUPC Approval 11-03-25
UFS Approval _____
Banner _____
Catalog _____

**Department** Biological Science

**College** CESCOS

| **Program Name** | ☐ **New Program*** | **Effective Date** *(TERM & YEAR)* |
|---|---|---|
| Bachelor of Science | ☑ **Change Program*** | Spring 2026 |

**Please explain the requested change(s) and offer rationale below or on an attachment.**

see attached Memorandum

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

| **Faculty Contact/Email/Phone** | **Consult and list departments that may be affected by the change(s) and attach documentation** |
|---|---|
| Michelle Cavallo/mcavallo@fau.edu/561-297-3465 | |

| ***Approved by*** | | ***Date*** |
|---|---|---|
| Department Chair | SL Mattox | 10-14-25 |
| College Curriculum Chair | | 10-22-25 |
| College Dean | | 10/22/25 |
| UUPC Chair | Korey Sorge | 11-03-25 |
| Undergraduate Studies Dean | Dan Meeroff | 11-03-25 |
| UFS President | | |
| Provost | | |

Email this form and attachments to mjenning@fau.edu seven business days before the UUPC meeting.

MEMORANDUM

TO: Korey Sorge, Scientist, Department of Physics
UPC Chair, Charles E. Schmidt College of Science

FROM: Michelle Cavallo, Assistant Scientist, Department of Biological Sciences

RE: Bachelor of Science in Biological Sciences catalog entry – Corrections and non-substantive updates

DATE: October 13, 2025

We propose to make the following updates to the current Biology BS catalog entry.

1. We previously moved a physiology course (choose from x physiology courses) from our electives category to our core required courses. When that change was made, we failed to reduce the total elective credit requirement accordingly. We are seeking to decrease total program-specific credits required to bring the total back in line with what it was prior to moving the physiology course to the core.

2. We are seeking to correct the credit totals associated with the program in the catalog. It was noticed that they did not align with the program as written currently or before the physiology change was made.

3. We are adding new elective course options recently established by new faculty to our program elective list.

4. We are adding MAP 2491 – Mathematics for Biological Sciences 1 per Department of Mathematics' request.

5. This item postponed at UUPC on 11/3/25. We propose to remove two of the student success course options: First Year Interest Group Experience (SLS 1411, 1cr) and Honors Introduction to Academic Life (SLS 1501, 2cr). We will accept these courses as substitutions for the required Introduction to Biology at FAU (BSC 1019, 0cr) however, we do not want to advertise these options in our catalog entry in the interest of minimizing total credits students require to fulfill degree requirements.

6. We are updating our faculty list and our elective course lists to account for faculty retirements, new hires, and approved and in process new course proposals.

Please find a tracked changes version of the catalog entry attached.

Cc: Randy Brooks, Professor Departmental UPC Chair, Department of Biological Sciences
Sarah Milton, Professor and Chair, Department of Biological Sciences

Biological Sciences

Faculty:
Milton, S., Chair; Aleuy Young, O.; Anderson, R.; ~~Baronas-Lowell, D.;~~ Baldwin, J.; ~~Binninger, D.;~~ Brooks, W. R.; Cavallo, ,M. F.; ~~Esiobu, N.;~~ Claiborne, B., Emeritus; Fahimipour, A.; Fernandez, V.; Fontenas, L.; Forbes, V.; Francis, J.; Frazier, E.; Garner, A.; Godenschwege, T.; Grupstra, C.; Hartmann, J. X.; Hughes, C.; Jia, K.; Kajiura, S.; Koch-Rose, M.; ~~Kumi-Diaka, J.; Lovelace, M.; Lyons, H. J.; Macleod, G.;~~ McCoy, M.; Murphey, R.; Narayanan, R., Emeritus~~; Noonburg, E.; Owen,~~ D.; Pena, R.; Petersen, M.; Porter, M.; Reiterer, M.; Saith, S.; Salmon, M., Emeritus; Scholl, J.; Theisen, T.; Vollmer, S.; Waziry, P.; Wieczynski, D.; Weissbach, H., Emeritus; Wyneken, J.; Zhang, X-H.

The Department of Biological Sciences offers undergraduate degree programs leading to the Bachelor of Arts (B.A.) degree and Bachelor of Science (B.S.) degree. A grade of "C-" or better (unless otherwise noted in the course description) is required in all biology AND cognate courses taken as part of the requirements for an undergraduate degree in Biological Sciences. However, students must maintain a "C" average in departmental major courses.

The department also offers a Bachelor of Science in Medical Biology, an Honors Program, the FAU Max Planck Honors Program, a minor in Biological Sciences, and an undergraduate certificate program in Biotechnology. A Bachelor of Science (B.S.) in Neuroscience and Behavior is offered jointly with the Department of Psychology. This major is detailed under the Psychology Department section.

Master's-level degree programs include the Master of Science (M.S.), the Master of Science in Teaching (M.S.T.), and a Professional Science Master (P.S.M.) in Business Biotechnology.

Two combined programs are also available. In one, students earn a B.S./M.S. in Biological Sciences and in the other, a B.S. in Biological Sciences and an M.S. in Environmental Science.

Recency of Undergraduate Credits Transfer Policy
No credits more than 10 years old may be transferred into or applied to an FAU Biology undergraduate program. Any credits that are transferred in are considered earned in the first semester of enrollment at FAU.

Link to Bachelor of Science Program

Link to Bachelor of Science with Major in Medical Biology Program

Link to Additional Undergraduate Offerings

Link to Combined Programs

Link to Master's Programs

Biological Sciences
Bachelor of Science (B.S.)

*(Minimum of 120 credits required)*

The Bachelor of Science (B.S.) degree is recommended for students planning to be professional biologists in industry or governmental service, for graduate work in the biological sciences and for students planning careers in medicine, dentistry or veterinary medicine. In addition to the University and College degree requirements, students seeking a Bachelor of Science degree in Biological Sciences must complete the following degree requirements.

Prerequisite Coursework for Transfer Students
Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the General Education Curriculum) 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 *Transition Guides.*

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.

Core Requirements - ~~47~~ 51- 54 credits

| Course Title | **Course Number** | **Credits** |
|---|---|---|
| Introduction to Biology at FAU | BSC 1019 | 0 ~~or~~ |
| First-Year Interest Group Experience | SLS 1411 | 1 or |
| Honors Introduction to Academic Life | SLS 1501 | 2 |
| Biological Principles and Lab | BSC 1010, 1010L | 4 |

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|---|---|---|
| Biodiversity and Lab | BSC 1011, 1011L | 4 |
| General Chemistry 1 and Lab | CHM 2045, 2045L | 4 |
| General Chemistry 2 and Lab | CHM 2046, 2046L | 4 |
| Organic Chemistry 1 | CHM 2210 | 3 |
| Organic Chemistry 2 | CHM 2211 | 3 |
| Methods of Calculus | MAC 2233 | 3 or |
| Calculus with Analytic Geometry 1 | MAC 2311 | 4 or |
| Mathematics for Biological Sciences 1 | MAP 2491 | 3 |
| College Physics 1 | PHY 2053 | 4 or |
| General Physics 1 | PHY 2048 | 4 |
| College Physics 2 | PHY 2054 | 4 or |
| General Physics 2 | PHY 2049 | 4 |
| General Physics 1 Lab | PHY 2048L | 1 |
| General Physics 2 Lab | PHY 2049L | 1 |
| Experimental Design and Statistical Inference | PSY 3234 | 3 or |
| Introduction to Biostatistics | STA 3173 | 3 |

Choose four of the courses below:
*Additional courses chosen from this category beyond the four courses may be applied toward the elective requirement.*

| **Course Title** | **Course Number** | **Credits** |
|---|---|---|

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|---|---|---|
| One course in Physiology*** | | 4-5 |
| Genetics | PCB 3063 | 4 |
| Cell Biology | PCB 3023 | 3 |
| Principles of Ecology | PCB 4043 | 3 |
| Evolution | PCB 3674 | 3 |

****Students who select the "One course in Physiology" option above may fulfill this option by choosing one of the below course/lab combinations.*

| **Course Title** | **Course Number** | **Credits** |
|---|---|---|
| Principles of Plant Physiology and Lab | BOT 4503, 4503L | 4 |
| Comparative Animal Physiology and Lab | PCB 4723, 4723L | 4 |
| Vertebrate Structure Development and Evolution and Lab | ZOO 4690, 4690L | 5 |
| Human Morphology and Function 1 and Lab | PCB 3703, 3703L | 4 |
| Human Morphology and Function 2 and Lab | PCB 3704, 3704L | 4 |

Electives
*Choose a minimum of ~~18~~15 upper-division credits from the list below:*

| Course Title | Course Number | Credits |
|---|---|---|
| Biochemistry 1 | BCH 3033 | 3 |
| Biochemistry 2 or<br>Biochemistry Lab | BCH 3034 or<br>BCH 3103L | 3 |
| Vascular Plant Anatomy and Lab | BOT 3223, 3223L | 4 |

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|---|---|---|
| Plant Cell Biology | BOT 4542 | 3 |
| Principles of Plant Physiology and Lab | BOT 4503, 4503L | 4 |
| Plant Biotechnology | BOT 4734C | 3 |
| Conservation Biology | BSC 3052 | 3 |
| Introduction to Biological Research | BSC 3453 | 1 |
| Molecular Genetics of Aging | BSC 4022 | 3 |
| Climate Change Biology: Ecosystems to Human Health | BSC 4307 | 3 |
| Laboratory Methods in Biotechnology | BSC 4403L | 3 |
| Concepts in Bioinformatics | BSC 4434C | 3 |
| Biology of Cancer | BSC 4806 | 3 |
| Introduction to Biological Networks | BSC 4884 | 3 |
| Directed Independent Study* | BSC 4905 | 1-3 |
| Directed Independent Research in Biological Sciences* | BSC 4910 | 0-3 |
| Honors Research | BSC 4917 | 3 |
| Honors Thesis | BSC 4918 | 3 |
| Special Topics | BSC 4930 | 1-3 |
| Comparative Animal Behavior | CBH 4024 | 3 |
| Organic Chemistry Lab | CHM 2211L | 2 |
| Critical Thinking in Environmental Science | EVS 4021 | 3 |
| Culture of Aquatic Organisms | FAS 4403 | 3 |

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|---|---|---|
| Artificial Intelligence Applications in Biology | IDS 4139 | 3 |
| General Microbiology and Lab | MCB 3020, 3020L | 4 |
| Medical Bacteriology | MCB 4203 | 3 |
| Virology | MCB 4503 | 3 |
| Microbial Ecology | MCB 4603 | 3 |
| Marine Biodiversity and Lab | OCB 4032, 4032L | 4 |
| Marine Biology and Lab | OCB 4043, 4043L | 4 |
| Marine Microbiology and Molecular Biology and Lab | OCB 4525, 4525L | 4 |
| Marine Ecology and Lab | OCB 4633, 4633L | 4 |
| Marine Science | OCE 4006 | 3 |
| Issues in Human Ecology | PCB 3352 | 3 |
| RI: Drosophila Genes and Behavior | PCB 4054C | 3 |
| Genetics Lab | PCB 4067L | 3 |
| Immunology | PCB 4233 | 3 |
| Freshwater Ecology and Lab | PCB 4301, 4301L | 4 |
| Molecular Genetics | PCB 4522 | 3 |
| Genes and Development | PCB 4594 | 3 |
| Genes, Neurons and Behavior | PCB 4652 | 3 |
| RI: Neurophysiology | PCB 4832C | 3 |
| Cellular Neuroscience and Disease | PCB 4842 | 3 |

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|---|---|---|
| Practical Cell Neuroscience | PCB 4843C | 3 |
| Biological Bases of Behavior | PSB 3002 | 3 |
| Invertebrate Zoology and Lab | ZOO 3205, 3205L | 5 |
| Introduction to Animal Locomotion | ZOO 4373 | 3 |
| Sea Turtle Integrated Biology | ZOO 4405 | 3 |
| Biology of Sharks and Rays | ZOO 4407 | 3 |
| Ornithology and Lab | ZOO 4472, 4472L | 4 |
| Principles of Human Neuroanatomy | ZOO 4742 | 3 |

* Students may enroll in a maximum of 3 research credits within a single semester.

Note: No more than a total of 5 non-graded (S/U) credits may be used to fulfill biology degree program requirements. Approved non-graded biology electives include:

| Course Title | Course Number | Credits |
|---|---|---|
| Directed Independent Study | BSC 4905 | 1-3 |
| Directed Independent Research in Biological Sciences | BSC 4910 | 0-3 |
| Seminar | BSC 4932 | 1 |
| Directed Independent Research in Environmental Science | EVS 4916 | 0-3 |
| Science Internship | IDS 3941 | 1-3 |

Note: No more than 2 credits of a seminar course (BSC 4932) may be used to fulfill biology degree program requirements.

Note: Biology department approval is required for students wishing to complete the Science Internship for credit. After a student's Science Internship registration request has been processed by the FAU Career Center, the Career Center will communicate directly with the department to request approval on the student's behalf.

Note: Students wishing to participate in Medical Shadowing Internship should not enroll in the Science Internship. They should instead enroll in Medical Shadowing Internship (IDS 3940). The Medical Shadowing Internship course cannot be used to fulfill biology degree program requirements.

Students can find detailed flight plan information and General Education Curriculum checklists for biology majors through University Advising Services.