FIU Arts, Sciences & Education
School of Environment, Arts and Society

Department of Biological Sciences

BACHELOR OF SCIENCE
PROGRAM OF STUDY

(BIOL:BS)

PLEASE READ COURSE DESCRIPTIONS in the UNDERGRADUATE COURSE CATALOG (catalog.fiu.edu). Most elective courses have prerequisites that must be taken BEFORE you take the elective course. To see your own progress, you can view your Panther Degree Audit from your My FIU. If you need assistance or have any questions, you are encouraged to see an advisor prior to each registration period by making an appointment via the Panther Success Network. All Biology faculty members serve as biology career advisors and have designated advising times. All Science and Math courses must be completed with a grade of "C" or better to satisfy the requirements. ***The Biological Sciences BS has enrollment and completion success markers that will be used to monitor your progress in the major. In cases where students are not making good progress, a change of major may be required.***

LOWER DIVISION PROGRAM

- ☐ UCC –University Core Curriculum (**Note:** Transfer students with an AA degree from a Florida College System or other Florida State University are exempt from the UCC).
- ☐ GLOBAL LEARNING REQUIREMENT at Foundation Level and In-field/Discipline Specific Level (consider using upper division courses here)
- ☐ Civic Literacy Requirement (see page 4)
- ☐ Students entering the University with fewer than 60 hours must complete 9 hours of coursework during the summer semester
- ☐ Foreign Language requirement (see page 4)
- ☐ **General Science Requirements** (also called Common Prerequisites)

General Science Courses	FIU *( ) = credit hours*	BC or MDC equivalent	UM Equivalent
☐ General Biology I and II	BSC 2010(3)+Lab(1) BSC 2011(3)+Lab(1)	BSC 2010+Lab or BOT 1010+Lab BSC 2011+Lab ZOO 1010+Lab	BIL 150 +151Lab BIL 160 + 161Lab
☐ General Chemistry I and II	CHM 1045(3)+Lab(1) CHM 1046(3)+Lab(1)	CHM 1045+Lab or CHM 1040+Lab CHM 1046+Lab CHM 1041+Lab	CHM 111 + 113Lab CHM 112 + 114Lab
☐ Organic Chemistry I and II	CHM 2210(4)+Lab(1) CHM 2211(3)+Lab(1)	CHM 2210+Lab CHM 2211+Lab	CHM 201 + 205Lab CHM 202 + 206Lab
☐ General Physics I and II	PHY 2053(4)+2048L(1) PHY 2054(4)+2049L(1) using algebra and trigonometry or PHY 2048(4)+Lab(1) PHY 2049(4)+Lab(1) using Calculus 1 and 2.	PHY 2053+Lab PHY 2054+Lab PHY 2048+Lab PHY 2049+Lab	PHY 101 + 106Lab PHY 102 + 108Lab
☐ Mathematics - Students must complete sub-requirements (A) and (B)			
(A) Calculus I	MAC 2311(4)	MAC 2311	MTH 111 or MTH 131
Students should take MAC 1147 as a prerequisite for MAC2311. Only students who have started the MAC1114/MAC1140 sequence at their previous institution, may request permission from the Math Department to get into the next course in the sequence.			
(B) Calculus II	MAC 2312(4)	MAC 2312	MTH 112 or MTH 132
or			
Statistics I and II	STA 3111(3) & 3112(3) Stats designed for Biology students. or STA 2122(3) & 3123(3) Stats designed for Psychology students		

Note: Calculus I and Statistics I together do not satisfy the requirement
STUDENTS WHO TAKE STATISTICS I AND II MUST ALSO COMPLETE CALCULUS I

UPPER DIVISION PROGRAM

☐ **Required Courses**	**Prerequisites**	Credits
☐ PCB 3043 Ecology (L*)	BSC 2010 + 2011	3
☐ PCB 3063 Genetics (L*)	BSC 2010	3
☐ PCB 4023 Cell Biology (L*)	PCB 3063 + CHM 1046	3
☐ PCB 4674 Evolution	PCB 3043 + PCB 3063	3
☐ BSC 4931 Senior Seminar	PCB 3043+3063+4023+4674	1
		13

☐ **6 Upper Division Elective Courses** - Distribution Requirement - One Elective lecture course in each of the following Areas**

☐ A. Ecology Area	3
☐ B. Organismal Diversity Area	3
☐ C. Physiology/biochemistry Area	3
☐ D. Structure/development Area	3
+ 2 upper division electives in any of these Areas	6
	18

☐ **Laboratory Requirement** - 4 Upper Division Labs (2cr labs=1 lab) — 4 or more

Please take labs that support upper division courses needed for your career goals

College of Arts, Sciences, and Education Requirements

☐ Credit hours of courses outside the major required within the last 60 hours of enrollment
Note: Take these 9 credit hours from upper division courses to help you reach the 45 hours needed for graduation Ex. 35 + 9 = 44 upper division credit hours — 9

☐ Upper Division hours required — 45

☐ Total credit hours required for graduation (University Requirement) — 120

** See next page for a list of elective courses to choose from.
Please note that there may be limited course availability in summer.

***Refer to course catalog for list of courses not applicable to the upper division Major electives.
Students interested in Teacher Certification should contact the CASE Advising office at 305-348-2978 for the more information about **Biology Secondary Education** track.

ELECTIVES COURSES - DISTRIBUTION REQUIREMENT – Spring 2021

(L*)-Indicates that lab is being offered this term along with the lecture

Courses listed may be subject to change. Please confirm course availability by searching for courses on your MyFIU.

BSC 4473C - Introduction to Scientific Diving Prerequisites: (OCB3043+lab or PCB3043+lab or CHS4600 or OCE3014), open water diving certification, permission of the instructor, FIU Diving Medical clearance, pass standardized swim test, at least 18 years old. **Lab fee of $1,158 applied.**
BSC 3941 - Biological Sciences Research Internship: Supervised, practical experience in a professional, laboratory or field setting in which biologists may work. Instructor permission is required. This does **NOT** fulfill any lab or elective lecture requirement for Biology Majors or Minors.

A. ECOLOGY

		Spring 2021	**Prerequisites (Grades of C or higher in)**
OCB	3043	Marine Biology Oceanography (L*)	BSC2010, BSC2011
OCB	3264	Coral Reef Biology	BSC2011
OCB	4005C	Biological Oceanography at Sea II	OCB 4004
OCB	4070	Coastal Marine Conservation	OCB3043 or PCB3043
OCB	4633	Marine Community Ecology	PCB3043
PCB	4232	Biology of AIDS	BSC2010, BSC2011, CHM1045, CHM1046
PCB	4301	Freshwater Ecology	PCB3043
PCB	4414	Behavioral Ecology	PCB3043
PCB	4467C	Marine Protected Areas ***GL***	BSC2010 and BSC2011
PCB	4932	Topics in Ecology: Disturbance Ecology	BSC2010, BSC2010L and BSC2011, BSC2011L
PCB	4932	Topics in Ecology: Advanced Ecological Statistics	BSC2010, BSC2010L and BSC2011, BSC2011L
ZOO	4513	Animal Behavior (L*)	BSC2010, BSC2011

B. ORGANISMAL DIVERSITY

		Spring 2021	Prerequisites (Grades of C or higher in)
BSC	3400	Wildlife Conservation, Forensic and Crime Science	BSC2010, BSC2011
BSC	4205	Topics in Organismal Diversity (U01)	BSC2010, BSC2010L and BSC2011, BSC2011L
BSC	4205	Topics in Organismal Diversity (U02)	BSC2010, BSC2010L and BSC2011, BSC2011L, CHM1045
BSC	4435	Bioinformatics for Biologists	BSC2010, BSC2011, PCB3063
ENY	4060	Entomology (L*)	BSC2010, BSC2011
MCB	3020	General Microbiology (*L)	CHM2210, BSC2010, and BSC2011
ZOO	4234	General Parasitology (L*)	BSC 2010, Corequisite: ZOO4234L
ZOO	4454	Fish Biology	BSC2010, BSC2011, PCB3043
ZOO	4462C	Herpetology	BSC2010, BSC2011, PCB3043
ZOO	4484	Primate Biology	BSC2010, BSC2011

C. PHYSIOLOGY/BIOCHEMISTRY

		Spring 2021	Prerequisites (Grades of C or higher in)
BCH	3033	General Biochemistry (L*)	CHM2211, BSC2010
BOT	4503	Plant Physiology	BSC2010, BSC2010L, BSC2011, CHM2210
BSC	4443	Functional Genomics and Proteomics	PCB3063
CHM	4304	Biological Chemistry I (L*)	CHM2211, CHM2211L
PCB	3702	Intermediate Human Physiology (L*)	BSC2010 or BSC2011
PCB	3704	Human Physiology II (L*)	BSC2010
PCB	4233	Immunology	PCB3063
PCB	4717	Topics in Physiology/Biochemistry: Mosquito Biology(U02)	BSC2010, BSC2010L and BSC2011, BSC2011L

D.STRUCTURE/DEVELOPMENT

		Spring 2021	Prerequisites (Grades of C or higher in)
BOT	3353	Morphology of Vascular Plants (L*)	BSC1011 or permission of the instructor
BSC	4422	Biotechnology: Applications in Industry, Agriculture and Medicine	
PCB	4561	Epigenetics	BSC1011, PCB3063
PCB	4663	General Human Genetics	PCB3063
ZOO	3731	Human Anatomy (L*)	BSC 2010 or BSC 2023 or PCB 2099 or MCB 2000 or HSC 3549 Corequisite: ZOO3731L
ZOO	3753	Histology (L*)	BSC2010, CHM2210, CHM2211
ZOO	4733	Survey of Regional Anatomy	BSC2011, BSC2011L, CHM1046, CHM1046L, PHY2054

Transfer Students

Transfer students with >60 credits, must take half of their upper division credits at FIU.
A **maximum** of 60 lower division semester hours taken at a two-year or a four-year institution may be counted toward the degree. A maximum of 30 upper division semester hours taken at a senior institution may be counted toward the degree. Lower division courses in excess of 60 semester hours may serve to meet specific course requirements for the degree, but credit hours represented by these courses **will not** reduce the number of credit hours to be completed at the University.

Foreign Language requirement

FIU Flent/Flex requirement – 2 years of high school foreign language satisfy Flent/Flex
All students graduating from Florida International University must meet the state-mandated foreign language requirement. The FLENT/FLEX requirement can be met if students have completed two years of the same foreign language in high school prior to their admission to FIU.
Transfer students may also qualify for an exemption with ANY of the following:

- Appropriate accelerated credit mechanisms (e.g., AP, A-Level, IB, CLEP)
- Transfer credits from a post-secondary institution,
- Two consecutive semesters of one language (levels 1 & 2)
- One intermediate or advanced level language course
- A passing TOEFL score for admission to the University
- Foreign Credentials (e.g High School transcript from Non-English speaking country)
- A previously earned Bachelor's degree (regionally accredited)
- An AA degree earned at a FL public institution prior to 1989

Students that do not qualify for any of the above exemptions must complete the foreign language requirement here at FIU, using one of the following options:

- Two introductory level courses (levels 1 & 2)
- One intermediate or advanced level course
- CLEP (Spanish, French and German only)
- FLATS (visit https://info.flats.byu.edu/list-of-languages/ to view the complete list of FLATS exams)

Civic Literacy Requirement: Beginning in the 2018-2019 school year and thereafter, all first-time-in-college baccalaureate seeking students entering a State University System institution must demonstrate civic literacy by satisfying the State of Florida's, civic literacy requirement. Students at FIU can satisfy the civic literacy requirement by successful completion of any one of **AMH2020 or POS2041**, or by achievement of the standard score on one of the following assessments:

a. Advanced Placement (AP) — Government & Politics: United States (Min score of 3)
b. Advanced Placement (AP) — United States History (Min score of 4)
c. CLEP — American Government (Min. score of 50)
d. Florida Civic Literacy Test (CIV 2222) — (Min. score of 60). CIV 2222 will be proctored and administered through the University Testing Centers at MMC and BBC. This test will be offered to FIU students free of charge on specified dates each semester. Students who choose to test outside of the designated dates may test on a walk-in basis. Sign up to take the CIV 2222 test at FIU.

Students are strongly encouraged to fulfill this requirement before the end of their first year. No baccalaureate seeking student admitted during the 2018-2019 school year and thereafter, may graduate from FIU without first having met this requirement.

Minor in Biology

BSC 2010 and BSC 2011 with labs and three upper division elective courses and an upper division lab (3000-level or above) with one each being in any three of the following four areas: A. Ecology, B. Organismal Diversity, C. Physiology/Biochemistry, or D. Structure/ Development.

Course	Distribution Area (Applies to Minors Only)
PCB 3043 Ecology	Ecology (A)
PCB 4674 Evolution	Organismal Diversity (B)
PCB 4023 Cell Biology	Physiology/Biochemistry (C)
PCB 3063 Genetics	Structure/Development (D)

One of the three elective courses must be at the 4000-level or higher and one must include a lab. Total upper division biology credits must number 10 or more. Grades of "C"or better are required for all courses and the labs.

Pre-Medical, Dental, Optometry, Physician Assistant, Pharmacy, Podiatry and Veterinary Curricula

Students who have fulfilled the requirements for the BS in Biology will also have satisfied most of the course requirements for admission to the above mentioned professional schools. Interested students should consult a Pre-Medical Advisor (DM 331A; 305-348-0515) for arranging a curriculum to enhance their potential to gain admission to these professional schools.

Enrollment Status – for continuous enrollment in a semester, dropping courses can change enrollment status. Contact the Registrar for more details. Contact Financial Aid for various regulations.

Full time = 12 to 18 credits. Normal load = 15 credits; registration for more than 18 credits requires Dean Approval.
Half time = 6-11 credits; Less than Half time = 5 credits or less.