FAU

FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Undergraduate Programs

Department Biolological Sciences

College CESCOS

UUPC Approval 10-11-21

UFS Approval _____

Banner Posted _____

Catalog _____

Program Name			Effective Date *(TERM & YEAR)*
Bachelor of Science with major in Biological Sciences	☐ New Program		
	✓ Change Program		Spring 2022

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

Update Catalog for Biology electives

Add: BSC 4307 Climate Change Biology: Ecosystems to Human Health 3 credits.

Remove from Course Description

Remove: ZOO 2303, 2303L Vertebrate Zoology and Lab-This course is no longer being taught

Remove from Biology elective:

Remove: ZOO 2303, 2303L Vertebrate Zoology and Lab

Faculty Contact/Email/Phone	**Consult and list departments that may be affected by the change(s) and attach documentation**
William Brooks-561-297-388-wbrooks@fau.edu	

Approved by		Date
Department Chair	_Sarah L. Dutton_	9-16-21
College Curriculum Chair		9-27-21
College Dean		9-28-21
UUPC Chair	_Daniel Meeroff_	10-11-21
Undergraduate Studies Dean	_Edward Pratt_	10-11-21
UFS President		
Provost		

Email this form and attachments to mjenning@fau.edu one week before the UUPC meeting so that materials may be viewed on the UUPC website prior to the meeting.

Bachelor of Science with Major in Biological Sciences
(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 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 *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 (47-49 credits)		
Biological Principles and Lab	BSC 1010, 1010L	4
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
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
Select four of the courses below **(Additional courses selected from this category beyond the four courses may be applied toward the elective requirement.)**		
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		
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 Select a minimum of 18 upper-division credits from the list below		
Biochemistry 1	BCH 3033	3
Biochemistry 2 or Biochemistry Lab	BCH 3034 **or** BCH 3103L	3
Vascular Plant Anatomy and Lab	BOT 3223, 3223L	4
Marine Botany and Lab	BOT 4404, 4404L	4
Plant Cell Biology	BOT 4542	3
Principles of Plant Physiology and Lab	BOT 4503, 4503L	4
Plant Biotechnology	BOT 4734C	3
Life of a Biologist*	BSC 2844	1
Conservation Biology	BSC 3052	3
Introduction to Biological Research	BSC 3453	1
Biological Research Writing	BSC 3481	2
Molecular Genetics of Aging	BSC 4022	3
Laboratory Methods in Biotechnology	BSC 4403L	3
Climate Change Biology: Ecosystems to Human Health	BSC 4307	3
Concepts in Bioinformatics	BSC 4434C	3
Biology of Cancer	BSC 4806	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

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
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
Cellular Neuroscience and Disease	PCB 4842	3
Practical Cell Neuroscience	PCB 4843C	3
Biological Bases of Behavior	PSB 3002	3
~~Vertebrate Zoology and Lab*~~	~~ZOO 2303, 2303L~~	~~4~~
Invertebrate Zoology and Lab*	ZOO 3205, 3205L	5
Introduction to Animal Locomotion	ZOO 4373	3
Functional Biology of Marine Animals and Lab	ZOO 4402, 4402L	4
Ornithology and Lab	ZOO 4472, 4472L	4
Principles of Human Neuroanatomy	ZOO 4742	3

* Although they are biology electives, Life of a Biologist (BSC 2844) and Vertebrate Zoology (ZOO 2303, 2303L) are not upper-division courses and, as such, do not fulfill the minimum biology upper-division elective requirement of 12 credits.

** 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:

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 cmmunicate 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 Intellectual Foundations Program checklists for biology majors through University Advising Services.

Biological   Sciences

*   Prerequisite   courses   must   be   completed   with   grades   of   "C-"   or   better.

*   ~~Vertebrate   Zoology   (ZOO   2303)   3   credits~~
~~Prerequisites: BSC   1010,   1010L,   1011,   1011L~~
~~Corequisite: ZOO   2303L~~
~~A study of the structure, relationships and natural history of the vertebrates with special emphasis on the ecology of subtropical and neotropical species.~~

~~Vertebrate   Zoology   Lab   (ZOO   2303L)   1   credit~~
~~Corequisite: ZOO   2303~~
~~A laboratory examination of selected topics in the biology of vertebrates, including formal surveys of the taxa and occasional weekend field trips.~~

* Prerequisite courses must be completed with grades of "C-" or better.

*   Invertebrate   Zoology   (ZOO   3205)   3   credits
Prerequisites: 8   credits   in   general   biology
Corequisite: ZOO   3205L
A survey of the invertebrate phyla from the Protozoa through the lower Chordate stressing comparative aspects of morphology and development as well as phylogenetic aspects and ecology.

Invertebrate   Zoology   Lab   (ZOO   3205L)   2   credits
Prerequisites: 8   credits   in   general   biology
Corequisite: ZOO   3205
Laboratory studies of the structure and diversity of invertebrate organisms.

Introduction   to   Animal   Locomotion   (ZOO   4373)   3   credits
Prerequisites: BSC   1010,   BSC   1011   with   minimum   grades   of   "C"
This course explores animal movement over a range of species and environments. It explores modes of locomotion taking into account anatomy and mechanics of both skeletal and muscular systems and the media through which an animal moves. Topics are presented through lecture material and readings from the primary literature and text.

*   Functional   Biology   of   Marine   Animals   (ZOO   4402)   3   credits
Prerequisites: BSC   1010,   BSC   1011,   OCB   4043
Corequisite: ZOO   4402L
Course examines various aspects of the functional biology of marine animals, including physiology, feeding, locomotion, morphology and sensory biology. Emphasis on identifying major biological challenges, such as pressure and temperature extremes, then analyzing adaptations developed by marine animals to deal with these challenges.

*   Functional   Biology   of   Marine   Animals   Laboratory   (ZOO   4402L)   1   credit
Prerequisites: BSC   1010L,   BSC   1011L,   OCB   4043L
Corequisite: ZOO   4402
An overview of techniques used to study the physiological and morphological adaptations of marine animals.