



ESF Minor Curriculum Change Proposal Form

Committee on Curriculum - ESF Faculty Governance
Office of Instruction & Graduate Studies

Date: January 13, 2023
Department: Environmental Biology
Curriculum Title: Environmental Biology Major

For Minor Changes in existing curriculum (check all that apply):

- revised courses
- change in total cr. hrs.
- new course sequence
- new program objectives*
- new courses added
- new accreditation/assessment requirements

*See SUNY Guidelines

1. Rationale for Change

-Please provide an explanatory narrative outlining the rationale for the change, and the impacts of this change on the learning outcomes of the curriculum:

This minor curriculum change is being conducted to:

- update General Education courses in relation to new SUNY Gen Ed guidelines;
- update catalog listing of directed electives; and
- replace the PHY 101 (Major Concepts of Physics) requirement with the new [FOR_###110](#)(Environmental Physics) course

Required Courses

	Course	Codes*	Credits
APM 105	Survey of Calculus and Its Applications I	G	4
APM 391	Introduction to Probability and Statistics	G	3
XXX ###	Diversity, Equity, Inclusion, and Social Justice Gen Ed Course	G	3
EFB 101	General Biology I: Organismal Biology and Ecology	G	3
EFB 102	General Biology I Laboratory	G	1
EFB 103	General Biology II: Cell Biology and Genetics	G	3
EFB 104	General Biology II Laboratory	G	1
EFB 120	The Global Environment and the Evolution of Human Society	G	3
EFB 132	Orientation Seminar: Environmental and Forest Biology		1
EFB 202	Ecological Monitoring and Biodiversity Assessment		3

EFB 210	Diversity of Life I		3
EFB 211	Diversity of Life II		3
EFB 307	Principles of Genetics		3
EFB 308	Principles of Genetics Laboratory		1
EFB 311	Principles of Evolution		3
EFB 320	General Ecology		4
EFB 325	Cell Biology		3
EWP 190	Writing and the Environment	G	3
EWP 290	Research Writing and Humanities	G	3
FCH 150	General Chemistry I	G	3
FCH 151	General Chemistry Laboratory I	G	1
FCH 152	General Chemistry II	G	3
FCH 153	General Chemistry Laboratory II	G	1
FCH 210	Elements of Organic Chemistry		4
PHY 101	Major Concepts of Physics I		4
FOR ###110	Environmental Physics		3
PHY 102	Major Concepts of Physics II		4
OR			
FCH 223	Organic Chemistry II		3
AND			
FCH 224	Organic Chemistry Laboratory II		1
OR			
APM 106	Survey of Calculus and Its Applications II		4

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Electives

Course	Codes*	Credits
General Education Course in one of the following categories: US History & Civic Engagement, American History, The Arts, World History and Global Awareness, World Languages, Western Civilization, Other World Civilizations, Foreign Language	G	36
General Education Course in two of the following categories: American History, The Arts, Western Civilization, Other World Civilizations, Foreign Language		

Directed Electives		25
Open Electives		27 28

Directed Electives: UPPER DIVISION BIOLOGY-Environmental Biology

To ensure that ENB undergraduates obtain both strength and breadth of knowledge, **25 elective credit** hours in biology must be obtained through courses designed for juniors or seniors (i.e., courses numbered 300 or higher). Among them must be courses that satisfy requirements A-C (below).

A. Field Experience Elective

At least 3 elective credits must come from an approved field biology course (in addition to the core field course, EFB 202). These credits may be obtained through an elective course at [Cranberry Lake Biological Station](#); an approved field course from another accredited institution; an approved internship (EFB 420) or independent research project (EFB498); or a field trip course (EFB 500). Some courses at CLBS meet both requirement A and a diversity requirement.

B. Structure and Function

At least 3 credit hours must be in the subject area of organism-level physiology, anatomy, or development. The list of allowable courses below may vary slightly from year to year.

- EFB 385 Comparative Vertebrate Anatomy (4 cr.) S
- ~~E~~ EFB 427 Plant Anatomy and Development (3 cr.) F
- ~~E~~ [EFB 429 Plant Physiology \(3 cr.\) S](#)
- EFB 462 Animal Physiology: Environmental and Ecological (34 cr.) ~~S~~F
- ~~E~~ [EFB 530 Plant Physiology \(3 cr.\) S](#)
- BIO 316 Anatomy & Physiology for Biology Majors (4 cr.) F,S (~~Not BIO216~~)
- BIO 355 General Physiology (3 cr.) F
- BIO 447 Immunology (3 cr.) F
- BIO 503 Developmental Biology (3 cr.) S

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C. Organismal Diversity

To encourage breadth in organism-level biology, students must complete at least one course from two of the four ~~elective categories~~ groups. (A course from each of the groups is strongly recommended).

1. Diversity of Microorganisms

- EFB 303 Introductory Environmental Microbiology (4 cr.) F
- EFB 340 Forest and Shade Tree Pathology (3 cr.) ~~S~~E
- ~~E~~ [EFB 342 Fungal Diversity and Ecology \(3cr.\) CLBS](#)
- [EFB 350 Microbial Consortia \(3 cr.\) S](#)-S

- ~~EFB 428 Mycorrhizal Ecology (3 cr.) F even years~~
- EFB 440 Mycology (3 cr.) F

2. Diversity of Plants

- EFB 326 Plant Evolution, Diversification and Conservation (3 cr.) S
- ~~EFB 327 Adirondack Flora (3 cr.) CLBS~~
- EFB 336 Dendrology (3 cr.) F
- ~~EFB 337 Field Ethnobotany (3 cr.) CLBS~~
- EFB 435 Flowering Plants: Diversity, Evolution, and Systematics (3 cr.) F
- EFB 446 Ecology of Mosses (3 cr.) S
- EFB 496 Flora of Central NY (3 cr.) **Maymester**
- EFB 496 Wetland Plants & Communities of Adirondacks (3 cr.) **CLBS**

3. Diversity of Invertebrate Animals

- EFB 351 Forest Entomology (3 cr.) F, even-odd years
- EFB 352 Entomology (3 cr.) F, even-odd years
- EFB 355 Invertebrate Zoology (4 cr.) S
- EFB 453 Parasitology (3 cr.) F
- EFB 554 Aquatic Entomology (3 cr.) F
- EFB 566 Systematic Entomology (3 cr.) S, even years

4. Diversity of Vertebrate Animals

- EFB 388 Ecology of Adirondack Fishes (3 cr.) CLBS
- EFB 479 Field Ornithology (3 cr.) CLBS
- EFB 482 Ornithology (4 cr.) S
- EFB 483 Mammal Diversity (4 cr.) F
- EFB 485 Herpetology (3 cr.) S
- EFB 486 Ichthyology (3 cr.) F

2. Institutional Impact:

Changes from existing condition:

Anticipated Enrollment or Enrollment Change: none

Faculty or Staffing Requirements: none

Technology, Computing Resources, and Classroom Resource Demands: none

Change in Accreditation Requirements: none

Changes to Assessment Plan: none

Library Resource Requirements: none

3. Catalog Narrative:

Please attach to this proposal form a copy of the current catalog description in MS Word format, with revisions shown in "track changes".

The Environmental Biology major is the least structured and most flexible of the six biology majors at ESF. The curriculum for the bachelor of science degree in environmental biology is built around a core of required courses that provides a general education, a broad background in physical science, math, and cellular, evolutionary, organismal and ecologicalthe principles aspects of biological and physical science, withand an orientation to natural resource managements and other environmental concerns. From this common foundation, the large number of both directed and open elective credits allows each student to develop a unique plan of study based upon their professional interests. With thoughtful selection of these electives, students who complete the degree program will meet requirements for a wide range of federal, state, municipal and private-sector positions that call for training in biological sciences. Further, this degree provides a successful pathway to prepare for graduate study in a variety of biological and ecological disciplines, as well as in K-12 education, medicine, and veterinary medicine. with the help of an assigned advisor who is expert in the student's general area of interest. In keeping with the hands-on, field orientation of our curriculum, students also must complete six credit hours of field experience.

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4. Curriculum Transition Plan:

Please provide a narrative description of your plan for transitioning from your existing curriculum to the proposed new curriculum. Please provide specific dates for implementing curriculum changes, overlap periods where old and new curricula may exist simultaneously, and final phase out of old curricula. Please also include impacts and mitigating considerations for transfer students and students in mid-program during implementation, impacts of changes in semester delivery of existing courses, addition of new courses within a particular semester, etc.

Students enrolling in the ENB major beginning Fall 2023 will complete the new General Education requirements. Most ENB students have already been enrolling in FOR296 to fulfill Physics requirements. The option will remain for students to enroll in PHY101 to complete the minimum physics requirement, or to fulfill pre-requisite requirement in preparation for a second semester of physics.

5. Approval Signatures:

Signatures below, or attached letters, indicate that the affected departments, programs or units have been notified of this proposal and have had an opportunity to assess the impact of the proposal on their respective units. If departments did not respond to your notification, you may wish to document your effort to contact them.

Affected Academic Department(s) or Program(s):

Department/Program 1

Name of Chair/Program Director

Chair Signature

Date

Or letter attached

Department/Program 2

Name of Chair/Program Director

Chair Signature

Date

Or letter attached

Department/Program 3

Name of Chair/Program Director

Chair Signature

Date

Or letter attached

If more/less than three Departments/Programs, please add/delete lines as appropriate.

Other Units

Library Director

Date

Or letter attached

Computing and Network Services _____ Date _____ Or letter attached

Physical Plant _____ Date _____ Or letter attached

Forest Properties _____ Date _____ Or letter attached

Environmental Health and Safety _____ Date _____ Or letter attached

Admissions _____ Date _____ Or letter attached

Other _____ Date _____ Or letter attached

Other _____ Date _____ Or letter attached

Office of the Provost

Signature below, or attached letter, indicates that the Provost either a) agrees that there is no need for additional resources from the College; or b) indicates willingness to provide the extra support to the department.

Provost Signature _____ Date _____ Or letter attached

6. Proposer Information and Department Chair Affirmation:

Contact Person:

Name: Gregory McGee

Department: Environmental Biology

Email: ggmcgee@esf.edu

Phone: x6792

This proposal has been reviewed and approved by the sponsoring Department. Affected departments have been notified and given the opportunity to provide feedback. Department resources are or will be made available to support this curriculum revision, or a plan is in place to meet the resource needs as identified in the Institutional Impacts section of this proposal (see Section 2, above) .

Name: _____ Date: _____
Department Chair (or designated curriculum representative)

Signature: _____ Or letter attached
Department Chair (or designated curriculum representative)

7. Final Approvals:

_____ Date _____
Curriculum Committee

_____ Date _____
Faculty Governance

_____ Date _____
Provost