



ESF Minor Curriculum Change Proposal Form

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

Date: January 9, 2023
Department: Environmental Biology
Curriculum Title: Forest Health Major

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

- x revised courses change in total cr. hrs.
x new course sequence new program objectives*
x 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:

- **Changes to core courses:**
 - Add EFB 245 Forest Health Colloquium (1 cr) to spring semester freshman/sophomore year (will be offered every other year) to introduce principles of forest health to students earlier in their program with incorporation of this lower-division forest health course.
 - Add EFB 344 Forest Health Seminar (1 cr) to spring semester junior/senior year (will be offered every other year) to survey literature regarding emerging threats and new trends in forest health.
 - Replace EFB 345 Forest Health (3 cr) with EFB425 Forest Health Senior Synthesis (3 cr) to serve as a senior synthesis experience. This course will continue to serve as the major's second field-study course as did EFB 345, and in conjunction with EFB202 will fulfill departmental requirements of a 6-cr minimum in field-based instruction.
 - Renamed EFB 494 (1 cr) Forest Health Senior Capstone, to more accurately reflect objectives of the course and distinguish it from EFB 425 Forest Health Senior Synthesis.
 - Remove FOR 321 Forest Ecology and Silviculture (3 cr), which no longer exists.
 - Add FOR 334 Silviculture (4 cr) to maintain much of the content of FOR 321
 - Add DEISJ course (TBD)
- **Update directed electives to reflect non-continued courses:**
 - Remove FOR 455 Forest Genetics and Tree Improvement (3 cr)
 - Remove FOR 324 Natural resources Information Systems (3 cr)
 - Remove EFB 415 Ecological Biogeochemistry (3 cr)
 - Remove EFB 516 Ecosystems (3 cr) S
 - Remove EFB 518 Systems Ecology (3 cr)
- **Update directed electives to reflect course title and number changes:**
 - FOR 322 Forest Mensuration (3 cr) is now FOR 322 Natural Resources Measurements and Sampling (3 cr)

- CME 376 Decay of Wood Products (3 cr.) is now RMS 376 Decay of Wood Products (3 cr)
- BTC 296 Topics in Biotechnology (3 cr.) is now BTC 496 Topics in Biotechnology (3 cr)
- EFB 445 Plant Ecology (3 cr.) is now EFB 445 Plant Ecology and Global Change (3 cr)
- **Add new directed electives to category E. Biodiversity:**
 - EFB 482 Ornithology (4 cr)
 - EFB 483 Mammal Diversity (4 cr)
 - EFB 485 Herpetology (3 cr)
 - EFB 486 Ichthyology (3 cr)
- **Add new directed elective to category B. Forestry/Wood Products**
 - FOR 496 Forest Management and Wildlife (3 cr)
- **Open electives**
 - Open elective credits remain the same at 19

Required Courses

Course		Codes*	Credits
APM 391	Introduction to Probability and Statistics	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 245	Forest Health Colloquium		1
OR			
EFB 344	Forest Health Seminar		1
EFB 303	Introductory Environmental Microbiology		4
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 336	Dendrology		3
EFB 340	Forest and Shade Tree Pathology		3
EFB 345	Forest Health		3
EFB 351	Forest Entomology		3
OR			
EFB 352	Entomology		3

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EFB 420 OR EFB 498	Internship in Environmental and Forest Biology Research Problems in Environmental and Forest Biology		1-53 1-53
EFB 425	Forest Health Senior Synthesis		3
EFB 439	Forest Health Monitoring		3
EFB 494	Forest Health Capstone		1
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
FOR 321	Forest Ecology and Silviculture		3
FOR 344	Silviculture		3
FOR 345	Introduction to Soils		3
PHY 101	Major Concepts of Physics I Environmental Physics		3 4
XXX ###	Diversity, Equity, Inclusion, and Social Justice Gen Ed Course	G	3

NOTE: 3 credits of EFB 498 or EFB 420 are required.

Electives

Course	Codes*	Credits
General Education Course in <u>one</u> two of the following categories: <u>US History & Civic Engagement, American History, The Arts, World History and Global Awareness, World Languages, Western Civilization, Other World Civilizations, Foreign Language</u>	G	36
Directed Electives		15
Open Electives		19

Directed Electives To ensure that Forest Health majors obtain both strength and breadth of knowledge, 15 elective credit hours must be selected from the following list,

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including at least one course from **five** of the seven categories.

A. Forest Protection and Conservation Biology

- EFB 390 Wildlife Ecology & Management (4 cr.) F
- EFB 413 Intro Conservation Biology (3 cr.) S
- EFB 502 Ecology and Management of Invasive Species (3 cr.) F

B. Forestry/Wood Products

- FOR 322 ~~Forest Mensuration~~Natural Resources Measurements and Sampling (3 cr.) F
- ~~○ FOR 334 Silviculture (4 cr.) F~~
- FOR 360 Principles of Management (3 cr.) F,S
- ~~○ FOR 455 Forest Genetics and Tree Improvement (3 cr.) S~~
- FOR 465 Natural Resources and Policy (3 cr.) S
- FOR 480 Urban Forestry (3 cr.)
- FOR 496 Forest Management and Wildlife (3 cr.) S
- RMSCME 376 Decay of Wood Products (3 cr.) S

C. Technology

- BTC ~~296-496~~ Topics in Biotechnology (3 cr.) F,S
- BTC 401 Molecular Biology Techniques (3 cr.) F
- BTC 425 Plant Biotechnology (3 cr.) S
- BTC 426 Plant Tissue Culture Methods (3 cr.) F
- ESF 300 Introduction to Geospatial Information Technologies (3 cr.) F,S
- ~~○ FOR 324 Natural Resources Information Systems (3 cr.) S~~

D. Ecology and Environmental Science

- ~~EFB 312~~EST 370 Introduction to Personal Environmental Interpretation Methods (3 cr.) F
- ~~○ EFB 415 Ecological Biogeochemistry (3 cr.) F~~
- EFB 428 Mycorrhizal Ecology (3 cr.) F
- EFB 445 Plant Ecology and Global Change (3 cr.) S
- EFB 505 Microbial Ecology (3 cr.) S
- ~~○ EFB 516 Ecosystems (3 cr.) S~~
- ~~○ EFB 518 Systems Ecology (3 cr.) F~~
- FOR 338 Meteorology (3 cr.) F

E. Biodiversity

- EFB 326 Plant Evolution, Diversification and Conservation (3 cr.) S
- EFB 342 Fungal Ecology and Diversity (3 cr.) CLBS

- EFB 351 Forest Entomology (3 cr.) F, even years
- EFB 352 Entomology (3 cr.) F, odd years
- EFB 355 Invertebrate Zoology (4 cr.) S
- EFB 428 Mycorrhizal Ecology (3 cr.) F even years
- EFB 435 Flowering Plants: Diversity, Evolution, and Systematics (3 cr.) F
- EFB 440 Mycology (A) (3 cr.) F
- EFB 453 Parasitology (3 cr.) F
- EFB 482 Ornithology (4 cr.) S
- EFB 493 Mammal Diversity (4 cr.) F
- EFB 485 Herpetology (3 cr.) F
- EFB 486 Ichthyology (3 cr.) S
- EFB 566 Systematic Entomology (3 cr.) S, even years

F. Mathematics and Physical Science

- APM 105 Survey of Calculus and Application I (4 cr.) F,S
- APM 106 Calculus and its Applications II (A) (4 cr.) F,S
- APM 510 Statistical Analysis (3 cr.) F
- FOR 323 Forest Biometrics (3 cr.) S
- PHY 102 General Physics II (A) (4 cr.) S

G. Anatomy and Physiology

- EFB 325 Cell Biology (3 cr.) S
- EFB 427 Plant Anatomy and Development (3 cr.) F
- EFB 462 Animal Physiology: Environmental & Ecological (4 cr.) F
- EFB 530 Plant Physiology (3 cr.) S
- EFB 531 Plant Physiology Lab (2 cr.) S
- EFB 570 Insect Physiology (3 cr.) S

2. Institutional Impact:

Changes from existing condition:

Anticipated Enrollment or Enrollment Change: none expected

Faculty or Staffing Requirements: no new staffing requirements

Technology, Computing Resources, and Classroom Resource Demands: no change

Change in Accreditation Requirements: none

Changes to Assessment Plan: none other than utilizing slightly different courses to achieve learning outcomes

Library Resource Requirements: no change

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".

Forest Health is a multidisciplinary and collaborative field of study that involves the understanding, monitoring, and protection of the world's forest resources. Forests support biodiversity, provide immense ecosystem services including water purification and carbon sequestration, and provide essential raw materials. Forest health experts support healthy forests by managing threats caused by invasive species, poor management, climate change, fire, and other anthropogenic factors.

A foundation in forest health requires coursework in ecology, dendrology, forest management, silviculture, mycology, plant pathology, and entomology. This major was developed to address the demand for broadly trained graduates to work in a wide range of professional capacities in government agencies, the private sector, and academia.

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.

-All new, renumbered, redescribed courses were approved by CoC in Spring 2021.

-New curriculum will be initiated AY 2023-24.

- EFB245 (colloquium) and EFB344 (seminar) will be offered during spring semester odd years. The first spring semester these courses will be required will therefore be spring 2025, but they will be offered in spring 2023. Students matriculating as freshmen in AY 2023-24 or 2024-25 will enroll in EFB245 in spring 2025. Transfer students who matriculated in AY 2023-24 or 2024-25 will enroll in EFB344 during spring 2025.
- EFB494 (capstone) has not changed substantially and will continue to be offered on the existing schedule (every semester).
- EFB425 – is renumbered from EFB345, with minor revisions in course content. New and continuing students will enroll in EFB425 beginning fall 2023.

-Students who matriculated prior to August 2023 will follow the existing curriculum or they may opt into the new curriculum. No courses are being discontinued so there will be no disruption to these students' programs.

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: Stephen Teale Department: Environmental Biology

Email: sateale@esf.edu Phone: x6758

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:

_____ **Curriculum Committee** _____ **Date**

_____ **Faculty Governance** _____ **Date**

_____ **Provost** _____ **Date**

