

**Department of Environmental Studies  
Undergraduate Handbook**

*Bachelor of Science  
in Environmental Studies*

**and**

*Bachelor of Science in Environmental Education &  
Interpretation*

State University of New York  
College of Environmental Science and Forestry (SUNY-ESF)  
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2020-2021

*Online version:*

<http://www.esf.edu/es/handbook>

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# **Bachelor of Science in Environmental Studies**

## **The Role of Environmental Studies in Addressing Societal Issues**

To address environmental issues, humanity must first understand the problems that underlie them. Because those issues exist at the interface of complex human and natural systems, understanding and addressing them requires the right synthesis of social, cultural, and scientific knowledge and skills. The Bachelor of Science in Environmental Studies program at ESF offers students learning and skill-development opportunities in the context of a well-rounded, yet substantial, education.

The Bachelor of Science in Environmental Studies program has been carefully designed to provide students with as comprehensive an understanding of environmental affairs as is possible in an undergraduate education. That means learning about the scientific diagnosis of environmental issues and having enough knowledge to work with scientists. It also means learning about the social, cultural, and technological causes of those issues. Finally, it means understanding the diversity of approaches needed to treat the problems. In the pursuit of these objectives, the Environmental Studies program brings together philosophical, theoretical and practical perspectives on a wide range of environmental concerns. In this way, the program prepares students with the knowledge, skills and experience to work for a more ecologically sustainable and socially just world.

The Bachelor of Science in Environmental Studies program provides a broad-based liberal education, requiring proficiency across a breadth of scholarly and practical areas. Alumni of the Environmental Studies program have gone on to graduate school in many different disciplines as well as to law and medical schools. They also have gone on to work in non-governmental organizations (NGOs), education, government, and the private sector, pursuing careers in such areas as environmental policy, advocacy, conservation, consulting, administration, law, and education, to name a few.

## Environmental Studies Guiding Principles

Six principles guide the design and implementation of ESF's Bachelor of Science in the Environmental Studies program:

1. **Holistic Interdisciplinary Education:** demonstration of the interconnectedness of the many disciplines and fields that intersect with environmental concerns.
2. **Critical Skills:** encouragement to become active learners with invaluable lifelong skills, including research, analysis, writing, and critical thinking.
3. **Ecological Literacy:** development of awareness, knowledge, and appreciation of the intrinsic values of ecological processes and communities.
4. **Diversity and Complexity:** recognition and respect for the diversity and complexity of ecological and social systems and the perspectives that inform social and institutional understanding of environmental affairs.
5. **Justice and Equity:** encouragement to seek understanding and build value of social and ecological justice and equity in each context.
6. **Thoughtful Professionalism:** preparation to be reflective and sensitive, yet also effective and professional in whatever endeavors students choose to pursue.

## Environmental Studies Program Learning Outcomes

By the time students have completed requirements for the Bachelor of Science in Environmental Studies degree at ESF, they are expected to have gained competency in at least five areas:

1. **Critical Thinking:** demonstrate critical thinking skills in relation to environmental affairs.
2. **Communication:** demonstrate knowledge and application of communication skills and the ability to write effectively in a variety of contexts.
3. **Interdisciplinary Synthesis:** demonstrate an ability to integrate the many disciplines and fields that intersect with environmental concerns.
4. **Ecological Literacy:** demonstrate an awareness, knowledge, and appreciation of the intrinsic values of ecological processes and communities.
5. **Sustainability:** demonstrate an integrative approach to environmental issues with a focus on sustainability.

# Environmental Studies Program Overview

The B.S. in Environmental Studies program at ESF is designed to provide a solid framework for environmental careers as well as individual flexibility, allowing students to build upon unique strengths and interests.

In the first two years of the program, students will develop a foundation in the humanities, social sciences, and natural sciences as they relate to environmental affairs. A key part of the first (fall) semester is student participation in EST 132, Orientation Seminar for Environmental Studies, and EST 133, Introduction to Environmental Studies, the “gateway” courses for the major; EST 133 is required for all incoming first-year and transfer students. During that time, students also fulfill SUNY general education requirements and take some open elective courses.

By the beginning of their junior year, each student should select one of three concentrations in the major (also known as "Options") which will be developed in the final two years of the program:

- ***Environment, Communication, and Society***: This Option focuses on how communication and social systems influence environmental affairs and shape our perceptions of the non-human world. It addresses the subjects of rhetoric and discourse; news media; public participation; advocacy campaigns; collaboration; conflict resolution; risk communication; social processes; and representations of nature in literature and popular culture.
- ***Environmental Policy, Planning, and Law***: This Option is concerned with how environmental policies, plans, and laws from the local to the global are created, implemented and contested. It emphasizes legislative, regulatory, and collaborative approaches to addressing environmental issues.
- ***Natural Systems Applications***: This Option is designed for students interested in the interface between biology and socio-economic issues. It provides an emphasis on biology with an eye to the *interaction with societal issues* ranging from education to habitat management. Faculty from the Department of Environmental and Forest Biology as well as faculty in the Department of Environmental Studies support the Natural Systems Applications Option.

Each Environmental Studies Option area has the flexibility to allow students to pursue their own interests. Also, several undergraduate minors are available for ES majors (see page 41). Selection of your Option should be done prior to registering for coursework for your Junior year. Use the form in Appendix A to declare your Option.

To help prepare for professional employment opportunities and/or graduate studies, all students complete a Synthesis Project in their senior year, through one of the following: professional internship; senior research paper; a designated 400-level synthesis course; or an advanced, graduate-level synthesis course. The Synthesis Project is developed in consultation with the student’s faculty advisor.

## Lower Division Courses

The first two years of the Bachelor of Science in Environmental Studies program consists of two broad categories of courses. **General education** courses provide students with knowledge and skills that are useful and important for all educated persons regardless of their profession. Such courses also help lay the intellectual foundation for successful completion of advanced courses, which in turn can lead to a specific profession. **Professional courses** provide students with direct preparation for specialization in environmental studies and career opportunities. Transfer students wishing to receive credit towards the B.S. in Environmental Studies degree for courses completed at their previous institution(s) should talk to their academic advisor promptly.

- **1<sup>st</sup> and 2<sup>nd</sup> year academic advisor: Erin Tochelli** (245 Baker Laboratory, tel. 315-470-6943, e-mail [ertochel@esf.edu](mailto:ertochel@esf.edu)), provides professional advising for first and second-year, and transfer students in the B.S. Environmental Studies program.

### *General Education Options*

Choose two of the five categories, minimum of three credit hours each. See webpage for choices:  
<http://www.esf.edu/registrar/gened.asp>

*Western Civilization*  
*Other World Civilization*  
*American History*  
*The Arts*  
*Foreign Language*

### *Open Electives*

In addition to core requirements and option courses, students are permitted 18 open elective credits in any area. At least nine credit hours should be at or above the 300-level.

### Lower Division Courses Required for All Environmental Studies Majors

<b>Course</b>	<b>Credits</b>	<b>Notes</b>
EST 132 Orientation Seminar for Environmental Studies	1	<i>Required for all Environmental Studies majors with the exception of transfer students</i>
EST 133 Introduction to Environmental Studies	3	<i>Required for all Environmental Studies majors, including transfer students</i>
APM 104 College Algebra & Pre-Calculus <b>OR</b> APM 105 Survey of Calculus & its Applications	3-4	<i>Students who pursue the Natural Systems Applications Option need to complete APM 105</i>
EWP 190 Writing and the Environment	3	<i>Highly recommended for all first-year students, including those who have successfully completed an advanced placement writing course.</i>
EWP 290 Research Writing and Humanities	3	
EFB 120 Global Environment and the Evolution of Human Society	3	
General Biology for Non-Majors & Recitation (temporary designation is EFB 296) <b>OR</b> EFB 101/102 General Biology I: Organismal Biology and Ecology & Laboratory	4	<i>Students who pursue the Natural Systems Applications Option need to complete EFB 101/102</i>
EST 231 Environmental Geology <b>OR</b> EFB 103/104 General Biology II: Cell Biology and Genetics	3-4	<i>Students who pursue the Natural Systems Applications Option need to complete EFB 103/104</i>
ESF 200 Information Literacy	1	
EST 221 Introduction to American Government	3	
EST 245 Foundations of Environmental Communication	3	
EWP 220 Public Presentation Skills	3	
EST 255 Research Methods for Environmental Studies	3	<i>Required for all Environmental Studies majors, including transfer students</i>
FCH 110/ Survey of Chemical Principles <b>OR</b> FCH 150/151 General Chemistry I with Lab	3-4	<i>Students who pursue the Natural Systems Applications Option need to complete FCH 150/151</i>
FOR 207 Introduction to Economics	3	
Elective <b>OR</b> FCH 152/153 General Chemistry II with Lab	3-4	<i>Students who pursue the Natural Systems Applications Option need to complete FCH 152/153</i>
SUNY Gen Ed courses (2)	6	<i>Students must take two courses meeting specific General Education requirements within SUNY's specified skill and knowledge areas</i>
<b>Total Required Credits</b>	<b>51-55</b>	



## Representative Course Sequence

This is a typical sequence for the first two years in the B.S. in Environmental Studies program. In consultation with your Advisor, you may need to adjust this sequence to suit your specific situation.

### Freshman Year

Fall Semester		Credits
EST 132	Orientation Seminar for Environmental Studies	1
EST 133	Introduction to Environmental Studies	3
EWP 190	Writing and the Environment	3
EST 221	Introduction to American Government	3
FOR 207	Introduction to Economics	3
APM 104 or APM 105	College Algebra & Pre-Calculus (EPPL & ECS students) or Survey of Calculus and Its Applications I (NSA students)	3-4
<b>Total Semester Credits</b>		<b>16-17</b>

Spring Semester		Credits
ESF 200	Information Literacy	1
EST 231 or GEN ED	Environmental Geology (EPPL & ECS students) or SUNY Gen Ed (NSA students)	3
EFB 120	Global Environment and the Evolution of Human Society	3
Biol & Rec./ Non-Majors or EFB 103/104	Biology for Non-majors & Recitation (EPPL & ECS students) or General Biology II: Cell Biology and Genetics & Laboratory (NSA students)	3-4
EST 255	Research Methods for Environmental Studies	3
<b>Total Semester Credits</b>		<b>13-14</b>

### Sophomore Year

Fall Semester		Credits
EST 245	Foundations of Environmental Communication	3
FCH 110 or FCH 150/151	Survey of Chemical Principles (EPPL & ECS students) or General Chemistry I & Laboratory (NSA students)	3-4
EWP 220	Public Presentation Skills	3
ELECTIVE	Elective	3
GEN ED or EFB 101/102	SUNY Gen Ed (EPPL & ECS students) or General Biology I & Laboratory (NSA students)	4
<b>Total Semester Credits</b>		<b>16-17</b>

Spring Semester		Credits
EWP 290	Research, Writing, and the Humanities	3
GEN ED	SUNY Gen Ed	3
ELECTIVE or FCH 152/153	Elective (EPPL & ECS students) or General Chemistry II & Laboratory (NSA students)	3-4
ELECTIVE	Elective	3
ELECTIVE	Elective or Option Course	3
<b>Total Semester Credits</b>		<b>15-16</b>

## Upper Division Requirements

Environmental Studies students may select an Option in the major at any time. This is typically done in the spring semester of the sophomore year, however *an Option must be selected prior to registration for junior coursework*. Use the form in Appendix A to declare your Option. Each Option is described in detail below. The Junior and Senior years of the Environmental Studies program are designed to meet four objectives:

1. Extend and deepen foundations in the Social Sciences, Humanities, and Natural Sciences;
2. Provide a focus for professional employment and/or graduate studies;
3. Allow students to customize a Synthesis Project experience; and
4. Bring all students in the major together in the Senior Seminar in Environmental Studies.

The Upper Division consists of two parts: Core course requirements all students must fulfill (23 credits) and Option requirements (30 credits).

### Upper Division Core Requirements

The following is a list of Upper Division core requirements (R) for **all** Environmental Studies majors, regardless of Option area:

Course	Credits	Notes
APM 391 Introduction to Probability & Statistics (R)	3	
EWP 407 Writing for Environmental Professionals(R)	3	
EFB 320 General Ecology (R)	4	
EST 321 Government & the Environment (R)	3	
EST 361 History of the American Environmental Movement (R)	3	
Upper Division Natural Science <b>OR</b> Upper Division Computing Course.	3	<i>Recommended courses are listed below.</i>
Senior Synthesis	3	<i>See page 14</i>
EST 494 Senior Seminar in Environmental Studies (R)	1	<i>See page 14</i>
<b>Total Required Credits</b>	<b>23</b>	

### Natural Science or Computing Science Courses

This requirement is intended to broaden students' knowledge of environmental science. Students are required to take at least one Upper Division (300 or 400 level) course in Natural Science or Computing. The following is a list of courses students may select from. Other Upper Division Natural Science or Computing courses may be selected in consultation with your Advisor. Be sure you meet the prerequisites for a course before signing up for it.

Natural Science Courses		
Course	Course Name	Credits
LSA 311	Natural Processes in Design & Planning	3
FOR 332	Forest Ecology	3
FOR 338	Meteorology	3
FOR 340	Watershed Hydrology	3
FOR 345	Introduction to Soils	3
EFB 303	Introductory Environmental Microbiology	4
EFB 326	Diversity of Plants	3
EFB 327	Adirondack Flora	3
EFB 336	Dendrology	3
EFB 342	Fungal Diversity and Ecology	3
EFB 345	Forest Health	3

EFB 352	Entomology	3
EFB 355	Invertebrate Zoology	4
EFB 384	Field Herpetology	3
EFB 388	Ecology of Adirondack Fishes	3
EFB 400	Toxic Health Hazards	3
EFB 413	Introduction to Conservation Biology	3
EFB 415	Ecological Biogeochemistry	3
EFB 440	Mycology	3
EFB 444	Biodiversity and Geography of Nature	3
EFB 445	Plant Ecology and Global Change	3
EFB 446	Ecology of Mosses	3
EFB 462	Animal Physiology: Environmental and Ecological	3
EFB 480	Principles of Animal Behavior	3
EFB 482	Ornithology	4
EFB 483	Mammal Diversity	4
EFB 485	Herpetology	3
EFB 486	Ichthyology	3
EFB 493	Wildlife Habitats and Populations	4
<b>Computing Science Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
ESF 300	Introduction to Geospatial Information Technologies	3

## Independent Study Courses

Both EST 495 and EST 498 are available to Upper Division students. Both of these courses offer the opportunity for independent study and research. These require students to propose a specific topic for study or research that is not available in conventional coursework at the College or at Syracuse University. They are not substitutes for other courses, but rather present opportunities for students to extend their knowledge of a subject area beyond general program requirements. Because the focus is on independent work, these courses provide less faculty supervision than regularly scheduled courses and therefore are suitable for highly motivated students only. Neither EST 495 nor EST 498 may be used for completing the Senior Synthesis requirement.

To schedule EST 495 or EST 498 courses, students should provide a written request to a faculty member identifying the intended topic of study, and a list or sample of readings to be completed. The topic should match the instructor's area of expertise. Students should be aware that faculty are not required or even expected to offer independent study courses, but will often do so if the student presents solid preparation for the proposed course. If the faculty member agrees to offer this course, he or she will provide a course authorization form that permits registration.

One hour of course credit is normally awarded for independent study based on the satisfactory completion of the equivalent of 45 hours of academically-related activity by a well-prepared student. The instructor is responsible for providing initial study guidance, criticism, review, and the final evaluation of the student's performance. It is expected that the student will prepare a written plan of study including a description of the final product to be evaluated. This plan of study should be signed by both student and instructor prior to registration, with a copy placed in the student's advising file.

## Senior Synthesis Project

All Environmental Studies students must complete a Senior Synthesis Project related to their Option, completed during their final year of study. This experience allows for the reflection upon completed coursework and “real world” problems and research issues. The selection should be carefully planned with the student's faculty advisor, using the Environmental Studies learning objectives as guidance for each step of the planning and implementation process. Planning should begin early in the junior year to prepare for completion of the synthesis project during the senior year. Students who have completed 90 credit hours of coursework may request approval of an internship for the summer between the junior and senior years. In general, there are four Synthesis Project alternatives:

1. *Professional Internship*: This is an opportunity for hands-on experience and application of skills and knowledge. This requires a pre-approved agreement with the host organization and ES Internship Coordinator; a written internship report; and a supervisor evaluation, as described in Appendix B. Students register for an EST 499 course with the ES Internship Coordinator. **Note:** applications for summer internships often are required as early as the prior December or January; students preferring this alternative should begin planning early. Credits for internships **must be approved prior to** the start of the internship.
2. *Senior Paper*: This is an opportunity for the student to define and research a topic of interest with the supervision of a College faculty member. Research may be undertaken in the summer prior to the senior year. This alternative is described in Appendix C. Students register for an EST 400 course in the fall or spring semester. Some students have published their Senior Paper (usually with a professor) and this is suggested for very ambitious, skilled and dedicated students, including those intending to attend graduate school. Students in the ESF Honors Program may utilize their Honors Research paper to satisfy the Senior Synthesis requirement. Students and Advisors should refer to the Honors Program materials later in this Handbook for details.
3. *400-Level Courses involving Synthesis Projects*: With their faculty advisor's and the course Instructor's approval, the student may use one of the following courses to fulfill the senior synthesis requirement: EST 426, EST 427, EST 493 and LSA 451. If one or more of these courses is a requirement for the option area, it cannot be used as a senior synthesis course (i.e., no double-counting).
4. *Advanced Coursework*: With the faculty advisor's and course instructor's approval, the student may select an applied project or introductory graduate course that synthesizes content from two or more Option courses. The selected course should include a “product”, such as a term paper or team project report.

Carried out independently in consultation with the project supervisor, Synthesis Project results are shared with other Environmental Studies majors, program faculty, and the campus community through presentation of research-style posters in the Senior Seminar in Environmental Studies (see below). The project supervisor typically is either the faculty advisor (EST 400) or ES Internship Coordinator (EST 499).

## Senior Capstone Course

**EST 494, Senior Seminar in Environmental Studies**, provides Environmental Studies majors a capstone experience in their final (spring) semester, pulling together their accomplishments over four years. Students will be asked to reflect on the Environmental Studies learning objectives (page 6) in understanding environmental issues, knowledge gained through coursework and extracurricular activities (internships, research, etc.). Additionally, students prepare and present research-style posters on their Synthesis Projects. The Senior Seminar is a required course for all Environmental Studies students.

## *Option in Environment, Communication and Society (ECS)*

The Environment, Communication and Society Option focuses on the many ways that communication, broadly defined, intersects with environmental affairs. These include activism, media, education, public participation, and conflict resolution. In addition, the Option helps students explore the diversity of ways that environmental problems are understood, and ways that cultural meanings of nature are expressed, including through literature and the arts.

No matter where your career path leads, the critical value of having a strategic, systems-based, and skilled understanding of communication dynamics and processes cannot be underestimated. The Environment Communication and Society Option is based on the premise that it is through written, oral, and visual communication that humans determine their relationship with the rest of the planet and with each other concerning it. Therefore, the Option is committed to equipping students with increased knowledge and skills to contribute to the effectiveness of all aspects of environmental, civic, governmental, non-government organizations, and business communities.

We provide a broad-based foundation in environmental communication theory and application through core courses that all students in the Option take. Yet we know students have individual interests and plans, so the Option is flexible enough so students can choose Option courses and Option methods courses that make the most sense. Individual interests that students may pursue as part of this Option include literature of nature, environmental values and ethics, the meanings of nature, advocacy, collaboration, leadership and group processes, dispute resolution, mass media and popular culture, information use, environmental journalism, and environmental education/ interpretation.

The Environment Communication and Society Option is based on four key ideas:

- *Communication among Diverse Perspectives:* We seek to strengthen students' ability to identify and appreciate their own and others' ideological and cultural perspectives as expressed in written, oral, and visual discourse. This increases students' ability to better understand and participate in key ecological debates; work effectively with scientific, resource management, governmental and advocacy communities to address complex environmental issues; and build campaigns and educational programs.
- *Theory into Practice:* We place a primary emphasis on the application of theory so that students gain informed skills they can strategically use in diverse settings in non-government organizations, industry, government or wherever their professional lives take them. We highly value service learning, experiential learning, and field experiences as part of a student's program.
- *Critical Thinking:* We encourage students to think critically about cultural patterns, economic and political lives, ethics, risk, science, the mass media, popular culture, literature, and other means by which we humans socially construct our beliefs, attitudes, policies, and behaviors. We encourage students to especially think critically about ecological degradation, power and beauty.
- *Preparing for the Long Haul:* We recognize the value of the "whole person" and reflect this in our emphasis on spirit, imagination, celebration, connection to the natural world, emotional and artistic expression, building an affirming community, and sharing reflections on the personal challenges environmental professionals face. We want students to connect with the sources of their own deepest passions.

## Environment, Communication & Society (ECS) Option Courses

An ECS Option Course is one that allows students to expand or deepen their understanding of those aspects and intersections of environment, communication and society. It is in the selection of these courses that students are able to more deeply explore their individual interests. The following is a list of courses students **may** select from. Be careful to make sure that you meet the prerequisites for a course before signing up for it.

### Option Requirement Overview

Category	Course Name	Credits
Required	EST 390, EST 395 and EST 493	9
Methods	Two from Methods list below	6
Option Electives	Five Courses from the list below. <b>NOTE:</b> Limitations exist for Environmental Writing & Rhetoric (EWR) Minors.	15
<b>Total Option Credits</b>		<b>30</b>

### Option Required Courses

Course	Course Name	Credits
EST 390	Social Processes and the Environment	3
EST 395	Public Communication of Science & Technology	3
EST 493	Environmental Communication Workshop	3

### Option Methods Courses (two of the following)

Course	Course Name	Credits
EWP 495 / EST 695	Environmental Journalism	3
EWP 420	Public Presentation Skills	3
EST 370	Introduction to Personal Environmental Interpretation Methods	3
EST 471	Non-Personal Environmental Interpretive Methods	3
ESF 300	Introduction to Geospatial Information Technologies	3

Additional courses may be approved by consulting with your advisor.

### Option Elective Courses (five of the following)

For all ECS students, regardless if they are pursuing the EWR Minor		
Course	Course Name	Credits
EST 312	Sociology of Natural Resources	3
EST 353	Behavior Change and the Environment	3
EST 366	Attitudes, Values and the Environment	3
EST 370	Introduction to Personal Environmental Interpretation Methods	3
EST 405	Gender, Culture, and the Environment	3
EST 415	Environmental Justice	3
EST 450	Sustainable Enterprise	3
EST 471	Non-Personal Environmental Interpretive Methods	3
EST 550	Environmental Impact Analysis	3
LSA 312	Place/Culture/Design	3
FOR 372	Fundamentals of Outdoor Recreation	3
EWP 394	The Art of Storytelling	3
EWP 450	Digital Storytelling	3

EWP 495 / EST 695	Environmental Journalism	3
EWP 420	Public Presentation Skills	3

<b>For ECS students NOT pursuing the EWR Minor</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EWP 300	Survey of Environmental Writing	3
EWP 311	Urban Environmental Literature	3
EWP 390	Literature of Nature	3
EWP 490	Contemporary Literature of Nature	3
EWP 494/696	Creative Non-Fiction in the Sciences	3
<b>Possible SU courses for all ECS students, regardless if they are pursuing the EWR Minor</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
CRS 338	Communication in Organizations	3
CRS 355	Political Communication	3
CRS 426	Persuasion	3
PAF 420	Interpersonal Conflict Resolution Skills	3
PSC 315	Media & Politics	3

**Additional courses may be approved by consulting with your advisor.**

EWP 300 and EST 395 should be taken early in the program cycle, typically in the fall and spring of junior year, respectively. Other courses may be taken in any sequence. Students should consult college catalogs and discuss other possibilities with their Advisors in order to support individual areas of interest. The most relevant courses at Syracuse University to look at include those offered by the departments of Communication and Rhetorical Studies, Political Science, and Sociology, respectively. The Program for Advanced Research on Conflict and Collaboration (PARCC, <http://www.maxwell.syr.edu/parcc.aspx>) also offers courses in conflict resolution methods and skills.

## Typical Course Sequence

This is a **possible** sequence for the Environment, Communication and Society Option. In consultation with your faculty advisor, you may adjust this sequence to suit your specific situation.

Semester	Course	Credits
Junior - Fall	EFB 320 General Ecology (R)	4
	EWP 407 Writing for Environmental Professionals (R)	3
	EST 361 History of the American Env. Movement (R)	3
	ECS Elective	3
	EST 395 Public Communication of Science & Technology (R)	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>
Junior - Spring	EST 321 Government and the Environment (R)	3
	APM 391 Introduction to Probability and Statistics (R)	3
	ECS Elective	3
	EST 390 Social Processes and the Environment (R)	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>15</b>
Senior - Fall	Upper Division Computing or Natural Science Course	3-4
	Senior Synthesis (R)	3
	ECS Elective Course	3
	ECS Method Course	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>15-16</b>
Senior - Spring	EST 494 Senior Seminar in Environmental Studies (R)	1
	EST 493 Environmental Communication Workshop (R)	3
	ECS Elective Course	3
	ECS Elective Course	3
	ECS Method Course	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>



## ***Option in Environmental Policy, Planning and Law (EPPL)***

This Option is concerned with how environmental policies and plans are created, implemented and contested. It emphasizes legislative, regulatory, and collaborative approaches to solving or managing environmental problems. Policies are guidelines for action such as laws, regulations, treaties, agreements, prescribed practices, professional standards, corporate strategies, operating procedures and personal codes of conduct. Studies will focus on how policies come to be, how they are implemented, enforced, evaluated, affirmed, rejected, or revised. Environmental planning includes plan formulation to implementation. As environmental problems grow more complex and urgent, the need grows for professionals in government, advocacy, business, education and the law to have a sound understanding of the policy process in its many dimensions and a clear grasp of the interdependencies between ecological and social systems. Policy and planning approaches increasingly involve public-private collaborations of diverse actors and stakeholders that address the unique environmental, legal, social and cultural components of the resource systems to be managed.

The Environmental Policy, Planning and Law Option promotes an understanding of the many facets of the policy process and the development of skills used within these processes, including:

- How policies and plans come into being (proposed, advocated, communicated, adopted, implemented, evaluated, reformed);
- Types of policies and plans (laws, regulation, economic incentives and disincentives, education and communication);
- Scale (personal, local, state, national, international, global);
- Activities (industrial processes, consumer behavior, resource extraction and use, transportation, marketing and social infrastructure);
- How society selects among competing aims (individual freedom, economic efficiency, social cohesion, safety and security and others);
- The role of politics and political ideology in policy making (conservatism, liberalism, environmental radicalism, deep ecology, government and governance); and
- The interaction between environmental policy and social justice (racism and the environment, feminism, indigenous and First Nations rights and perspectives, issues of globalism and global resource inequities).

Environmental Policy, Planning and Law graduates have career opportunities in all environmental sectors, working for federal, state and local governments, industry and consulting firms, and environmental non-government-organizations (NGOs). Many, either directly upon graduation or after a few years of work experience, go to graduate school in programs including law, public administration, planning, landscape architecture, and environmental management.

### ***Option Requirement Overview***

<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
	Option Methods Courses (2)	6
	Option Electives (5)	15
	Environmental Law Course	3
	Environmental Planning Course	3
EST 550	Environmental Impact Analysis	3
<b>Total Option Credits</b>		<b>30</b>

### ***Option Methods Courses***

Methods are tool-related topics that are used to analyze existing policies, to evaluate the need for new policies, and to facilitate effective collaborations. Below is a list of approved courses. **Your EPPL Option Advisor may substitute, without petition, other courses that he or she determines meet the analysis/facilitation tool intent.** Students are strongly encouraged to take at least one Geographic Information Systems course.

<b>ESF Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 370	Introduction to Personal Environmental Interpretation Methods	3
EST 427	Environmental and Energy Auditing	3
EST 471	Non-personal Environmental Interpretive Methods	3
ESF 300	Introduction to Geospatial Information Technologies	3
ERE 365	Principles of Remote Sensing	3
LSA 311	Natural Processes in Design and Planning	3
LSA 451	Comprehensive Land Planning	3
<b>SU Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
ANT 372	Issues in Intercultural Communication and Conflict	3
ANT 484	Social Movement Research Methods	3
GEO 361	Global Economic Geography	3
GEO 372	Political Geography	3
GEO 386	Quantitative Geographic Analysis	3

**Additional methods courses may be approved by consulting with your advisor.**

### ***Option Electives***

The courses listed on the following page are illustrative of some of the multiple courses at ESF and SU that are policy focused. In addition, all of the Law courses listed below may also count as Policy, Planning and Law Option elective courses. Students are strongly encouraged to work with their Advisor to develop a coherent set of courses that provide the breadth and depth suitable as a foundation for graduate study and/or entry-level professional positions.

<b>ESF Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 220	Urban Ecology	3
EST 312	Sociology of Natural Resources	3
EST 353	Behavior Change and the Environment	3
EST 366	Attitudes, Values & the Environment	3
EST 370	Introduction to Personal Environmental Interpretation Methods	3
EST 390	Social Processes and the Environment	3
EST 395	Public Communication of Science & Technology	3
EST 405	Gender, Culture, and the Environment	3
EST 415	Environmental Justice	3
EST 426	Community Planning and Sustainability	3

EST 427	Environmental and Energy Auditing	3
EST 450	Sustainable Enterprise	3
EST 471	Non-personal Environmental Interpretive Methods	3
EST 493	Environmental Communication Workshop	3
EFB 400	Toxic Health Hazards	3
EFB 405	Literature of Natural History	3
EFB 522	Biophysical Economics	3
ENS 519	Spatial Ecology	3
ERE 365	Principles of Remote Sensing	3
ESF 300	Introduction to Geospatial Information Technologies	3
EWP 394	The Art of Storytelling	3
EWP 450	Digital Storytelling	3
FOR 333	Natural Resources Managerial Economics	3
FOR 372	Fundamentals of Outdoor Recreation	3
FOR 442	Watershed Ecology and Management	3
FOR 465	Natural Resources Policy	3
FOR 478	Wilderness and Wildlands Management	3
LSA 311	Natural Processes in Design and Planning	3
LSA 451	Comprehensive Land Planning	3
<b>SU Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
ANT/GEO 405	Conservation and Management Protected Areas	3
ANT 407	Environment and Policy in the Tropics	3
ANT 414	Cities, Spaces and Power	3
ANT 475	Culture and Disputing	3
ECN 365	The World Economy	3
GEO 353	Geographies of Environmental Justice	3
GEO 356	Environmental Ideas and Policy	3
GEO 383	Geographic Information Systems	3
GEO 388	Geographic Information and Society	3
GEO 573	The Geography of Capital	3
PAF 416	Community Problem Solving	3
PAF 451	Environmental Policy	3
PSC 305	The Legislative Process and the U.S. Congress	3
PSC 308	The Politics of U.S. Public Policy	3
PSC 318	Technology, Politics, and Environment	3
PSC 328	American Social Movements	3
PSC 355	International Political Economy	3
PSC 365	International Political Economy of the Third World	3
AAS 346	Comparative Third World Politics	3
SOC 363	Urban Sociology	3
SOC 421	Population Issues	3
SOC 466	Organizations and Society	3

**Additional courses may be approved by consulting with your advisor.**

### ***Environmental Law Courses***

Legal processes play a critical role in the creation and implementation of environmental policies. All students must take at least one Law course and are encouraged to take additional offerings from the recommended list below:

<b>ESF Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 460	Land Use Law	3
FOR 487	Environmental Law and Policy	3
FOR 489	Natural Resources Law and Policy	3
<b>SU Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
LPP 255	Introduction to the Legal System	3
LPP 458	Environmental Law and Public Policy <sup>1</sup>	3
PSC 304	The Judicial Process	3
PSC 324	Constitutional Law I	3
PSC 325	Constitutional Law II (PSC 324 is an unofficial prerequisite)	3
PSC 352	International Law	3

**Additional courses may be approved by consulting with your advisor.**

### ***Environmental Planning Courses***

<b>ESF Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 426	Community Planning and Sustainability	3
EST 471	Non-personal Environmental Interpretive Methods	3
FOR 372	Fundamentals of Outdoor Recreation	3
FOR 442	Watershed Ecology and Management	3
FOR 475	Human Dimensions and Recreation Visitor Management	3
LSA 311	Natural Processes in Design & Planning	3
LSA 451	Comprehensive Land Planning	3
<b>SU Courses</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
ANT/GEO 405	Conservation and Mgmt. of Protected Areas	3
ANT 414	Cities, Spaces and Power	3
PAF 416	Community Problem Solving	3

**Additional courses may be approved by consulting with your advisor.**

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<sup>1</sup> Since this course is the same course as FOR 487 Environmental Law and Policy, students may only take LPP 458 if they are unable to take FOR 487.

## Typical Course Sequence

This is a **possible** sequence for the Environmental Policy, Planning and Law Option. In consultation with your Advisor, you may adjust this sequence to suit your specific situation.

Semester	Course	Credits
Junior - Fall	EFB 320 General Ecology (R)	4
	EWP 407 Writing for Environmental Professionals (R)	3
	EST 361 History of the American Environmental Movement (R)	3
	EPPL Option Elective	3
	EPPL Option Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>
Junior - Spring	APM 391 Introduction to Probability and Statistics (R)	3
	EST 321 Government and the Environment (R)	3
	EPPL Option Elective	3
	EPPL Option Elective	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>15</b>
Senior - Fall	Upper Division Computing or Natural Science Course	3-4
	EPPL Option Methods Course (GIS recommended)	3
	EPPL Option Environmental Planning Course	3
	EPPL Option Environmental Law Course	3
	EST 550 Environmental Impact Analysis (R)	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>15-16</b>
Senior - Spring	EST 494 Senior Seminar in Environmental Studies	1
	Senior Synthesis (R)	3
	EPPL Option Elective	3
	EPPL Option Methods Course	3
	General Elective	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>

## ***Option in Natural Systems Applications (NSA)***

The Natural Systems Applications Option is designed for students interested in careers at the interface of natural science and social and economic issues. This Option provides solid background in the natural sciences pertinent to our resources and ecosystems as well as a foundation in the social sciences. In contrast to the traditional science programs, this Option emphasizes the interaction of both natural sciences and societal issues. Specific goals are:

- Provide a sound background in both biophysical and social science;
- Foster a broad, systems view of our society, natural resources and ecosystems (or some other level of natural science such as an endangered population or microbial process or biotechnology) affected by human activity;
- Develop a capacity to make independent judgments of environmental issues based on scientific principles and socio-political understanding; and
- Enhance effective skills in communicating scientific/technical issues of natural sciences in socio-political settings.

Students in this Option prepare for careers dealing with many environmental issues of society including regulatory, consulting and advisory positions in governmental agencies as well as employment in education or in the private sector such as environmental consulting firms and activist organizations. Many of these contexts demand practical solutions that require sound judgment of natural scientific facts against the realities of our society. Graduates of the NSA option will do best in careers that demand articulate communication skills supported by scientific understanding. Many of our students go on for advanced degrees in science, law or business. Some become university teachers or researchers. Students in this Option may wish to consider also taking ESF's new Renewable Energy Minor; both together will prepare students well for a job or graduate studies in the energy fields.

### ***Option Overview***

<b>Category</b>	<b>Description</b>	<b>Requirement</b>	<b>Credits</b>
Field Methods	<b>GIS (Required)</b>	One GIS course required	3
	Scientific Breadth	One course required from scientific breadth	3
Natural Science Sub-Option	Natural Systems	One upper-division class required	3
	Environmental Quality	One upper-division class required	3
Social Science	Policy and Decision Making	3 upper-division classes required	9
	Communication and Interpretation	2 upper-division classes required	6
	Critical Perspectives	1 upper-division class required	3
<b>Total Option Credits</b>			<b>30</b>

### ***Field Methods***

ESF 300 Introduction to Geospatial Information Technologies or equivalent (required) and one upper-division course for scientific breadth. Suggested courses are as follows:

<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EFB 303	Introduction to Environmental Microbiology	3
EFB 352	Entomology	3
EFB 445	Plant Ecology & Global Change	3
EFB 326	Diversity of Plants	3
EFB 355	Invertebrate Zoology	3
EFB 483	Mammal Diversity	3
EFB 336	Dendrology	3
EFB 440	Mycology	3
EFB 486	Ichthyology	3
EFB 340	Forest Shade Tree Pathology	3
EFB 443	Plant Virology	3
EFB 505	Microbial Ecology	3

**Additional courses may be approved by consulting with your advisor.**

### ***Natural Science Sub-options***

One upper-division class from each sub-option is required. Suggested courses are as follows:

<b>Natural Systems and Management Sub-Option</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EFB 390	Wildlife Ecology & Management	3
EFB 413	Conservation Biology	3
EFB 415	Ecological Biogeochemistry	3
EFB 424	Limnology	3
EFB 444	Biodiversity and Geography of Nature	3
EFB 445	Plant Ecology and Global Change	3
EFB 487	Fisheries Science & Management	3
EFB 491	Applied Wildlife Science	3
EFB 493	Wildlife Habitats and Population	3
EFB 516	Ecosystems	3
EFB 518	Systems Ecology	3
EFB 519	Geographic Modeling	3
EFB 523	Tropical Ecology	3
EFB 542	Freshwater Wetland Ecosystems	3
<b>Environmental Quality Sub-Option</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EFB 351	Forest Entomology	3
EFB 400	Toxic Health Hazards	3
EFB 439	Forest Health Monitoring	3
EST 550	Environmental Impact Analysis	3
FOR 334	Silviculture	3

**Additional courses may be approved by consulting with your advisor.**

**Social Science**

Take three policy and decision-making courses (9 credits), two communication and interpretation courses (6 credits) and one critical perspectives course (3 credits). Suggested classes are as follows:

<b>Policy and Decision-Making</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 426	Community Planning & Sustainability	3
EST 427	Environmental & Energy Auditing	3
EST 450	Sustainable Enterprise	3
EST 460	Land Use Law	3
EST 550	Environmental Impact Analysis	3
FOR 451	Comprehensive Land Planning	3
FOR 465	Natural Resources Policy	3
FOR 487	Environmental Law & Policy	3
FOR 489	Natural Resources Law	3
<b>Communication and Interpretation</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 370	Introduction to Personal Environmental Interpretation Methods	3
EST 395	Public Comm. of Science and Technology	3
EST 471	Non-Personal Environmental Interpretative Methods	3
EST 493	Environmental Comm. Workshop	3
EWP 394	The Art of Storytelling	3
EWP 450	Digital Storytelling	3
FOR 372	Fundamentals of Outdoor Recreation	3
<b>Critical Perspectives</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
EST 312	Sociology of Natural Resources	3
EST 353	Behavior Change and the Environment	3
EST 366	Attitudes, Values, and the Environment	3
EST 390	Social Processes and the Environment	3
EST 405	Gender, Culture, and the Environment	3
EST 415	Environmental Justice	3

**Additional courses may be approved by consulting with your advisor.**

**Recommended Senior Synthesis Advance Coursework Option Courses**

NSA students pursuing the advanced coursework Option should consider the following:

- EFB 400 Toxic Health Hazards
- EFB 518 Systems Ecology
- EFB 522 Biophysical Economics



## Typical Course Sequence

This is a **possible** sequence for the Natural Systems Applications Option. In consultation with your faculty advisor, you will need to adjust this sequence to suit your specific situation.

Semester	Course	Credits
<b>Junior- Fall</b>	EFB 320 General Ecology (R)	4
	EST 361 History of the American Env. Movement (R)	3
	NSA Sub-option	3
	NSA Scientific Breadth Option	3
	NSA Sub-option - Natural Systems and Management	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>
<b>Junior - Spring</b>	EWP 407 Writing for Environmental Professionals (R)	3
	EST 321 Government and the Environment (R)	3
	APM 391 Introduction to Probability and Statistics (R)	3
	NSA Sub-option - Environmental Quality	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>15</b>
<b>Senior – Fall</b>	Upper Division Natural Science or Computing Course	4
	GIS Course (R)	3
	NSA Sub-option	3
	NSA Sub-option	3
	Senior Synthesis (R)	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>
<b>Senior – Spring</b>	EST 494 Senior Seminar in Environmental Studies (R)	1
	NSA Option Policy Course or Law Course	3
	NSA Option Focus Area Course	3
	NSA Option Focus Area Course	3
	General Elective	3
	General Elective	3
	<b>TOTAL SEMESTER CREDITS</b>	<b>16</b>

# **Bachelor of Science in Environmental Education and Interpretation**

Natural history is the description of nature and differs from ecology in placing less emphasis on quantification and more on careful observation. The overarching goal is to elucidate patterns and relationships in the natural world and assimilate this information into human affairs. It uses traditional and modern tools, often with an aesthetic component, to differentiate the natural world, and focuses on identification, life history, distribution, abundance and interrelationships among and between individuals, populations and species.

The field has a long and distinguished history including figures such as Darwin, Wallace and E. O. Wilson who are recognized for their seminal contributions to biology and ecology. Following a meteoric rise in popularity during the 19th century, natural history declined as new experimental and quantitative approaches came to dominate biology. In recent years, however, both the recognition of the role of biology in a holistic view of the planet, and the increasing emphasis on the value of education as the key to a sustainable future, have brought about a resurgence of interest in natural history and, crucially, its interpretation. Interpretation is defined as a communications process that reveals meanings and relationships about natural, cultural, historical and recreational resources. While interpretation may be viewed as a process to communicate any subject matter, historically it has always been linked with natural history. The methods of interpretation were forged by naturalists.

Interpretation and environmental education work hand in hand to help make connections between the world of science and the general public. Through the art of interpretation, students will learn how to help people make connections with the natural world and science.

The courses associated with the undergraduate major in environmental education and interpretation reflect the interdisciplinary and holistic nature of this subject area. Students become well-grounded in the natural sciences and in the skills specific to communication and informal education. This major seeks to integrate training in organismal biology, including a required field component, with in-depth training in the literature and context of natural history and a suite of environmental interpretation offerings. Students gain work experiences through an internship, where the recently acquired knowledge and skills in this arena can be applied.

The program prepares students for employment in nature centers, science museums, federal and state agencies, zoos, urban parks, arboreta, environmental education centers and aquaria, as well as in the ecotourism industry and travel agencies that sponsor natural history opportunities, such as birding and whale watching. Training in natural history and interpretation also provides a strong basis for a rewarding career in teaching and can act as a springboard for entry into graduate programs.

## Lower Division Courses

The first two years of the Bachelor of Science in Environmental Education and Interpretation program consists of two broad categories of courses. **General education** courses provide students with knowledge and skills that are useful and important for all educated persons regardless of their profession. Such courses also help lay the intellectual foundation for successful completion of advanced courses, which in turn can lead to a specific profession. **Professional courses** provide students with direct preparation for specialization in environmental education and interpretation and career opportunities. Transfer students wishing to receive credit towards the B.S. in Environmental Education and Interpretation degree for courses completed at their previous institution(s) should talk to their academic advisor promptly.

- **1<sup>st</sup> and 2<sup>nd</sup> year academic advisor: Erin Tochelli** (245 Baker Laboratory, tel. 315-470-6943, e-mail [ertochel@esf.edu](mailto:ertochel@esf.edu)), provides professional advising for first and second-year, and transfer students in the B.S. Environmental Education and Interpretation program.

### *General Education Options*

Choose two of the five categories, minimum of three credit hours each. See webpage for choices:

<http://www.esf.edu/registrar/gened.asp>

*Western Civilization*

*Other World Civilization*

*American History*

*The Arts*

*Foreign Language*

### *Open Electives*

In addition to core requirements and option courses, students are permitted 17 open elective credits in any area. At least nine credit hours should be at or above the 300-level.

## Typical Schedule

Following this schedule would allow a *four-year student* to complete all degree requirements. Variations should be discussed with your curriculum advisor. Schedules of *transfer students* may vary from this significantly.

### Freshman Year

#### Fall

Course	Course Name	Credits
EFB 101	General Bio I: Organismal Bio & Ecol	3
EFB 102	General Biology I Laboratory	1
FCH 150	General Chemistry I Lec	3
FCH 151	General Chemistry I Lab	1
APM 105	Survey of Calculus I	4
EWP 190	Writing and the Environment	3
EST 132	Orientation Seminar	1
<b>Total Credits</b>		<b>16</b>

#### Spring

Course	Course Name	Credits
EFB 103	General Bio II: Cell Biology & Genetics	3
EFB 104	General Biology II Laboratory	1
FCH 152	General Chemistry II Lec	3
FCH 153	General Chemistry II Lab	1
EWP 290	Research Writing & Humanities	3
General Education Course		3
<b>Total Credits</b>		<b>14</b>

#### Summer

Course	Course Name	Credits
EFB 202	Ecol Monitoring & Bio Assessment	3
Field Experience Elective		3
<b>Total Credits</b>		<b>6</b>

### Sophomore Year

#### Fall

Course	Course Name	Credits
PHY 101	Major Concepts of Physics I	4
EFB 320	General Ecology	4
EFB 210	Diversity of Life I	3
Electives		2
General Education Course		3
<b>Total Credits</b>		<b>16</b>

#### Spring

Course	Course Name	Credits
EWP 390	Literature of Nature	3
EFB 120	Global Environment	3
EFB 211	Diversity of Life II	3
Electives		6
<b>Total Credits</b>		<b>15</b>

**Junior Year****Fall**

Course	Course Name	Credits
EST 370	Intro to Pers. Env. Interp. Methods	3
EFB 307	Principles of Genetics	3
EFB 308	Principles of Genetics Laboratory	1
Electives		8
<b>Total Credits</b>		<b>15</b>

**Spring**

Course	Course Name	Credits
EST 471	Non-Pers Env Interp Methods	3
EFB 311	Principles of Evolution	3
APM 391	Introduction to Probability & Statistics	3
Electives		6
<b>Total Credits</b>		<b>15</b>

**Maymester (odd years)**

Course	Course Name	Credits
EST 472	Nat. Hist. Museums and Mod Science	3
<b>Total Credits</b>		<b>3</b>

**Senior Year****Fall**

Course	Course Name	Credits
EST 499	Environmental Studies Internship	3
Electives		12
<b>Total Credits</b>		<b>15</b>

**Spring**

Course	Course Name	Credits
FOR 372	Fundamentals of Outdoor Recreation	3
Electives		10
<b>Total Credits</b>		<b>13</b>

## Directed Electives

28 total credits will come from directed electives:

### A. Conservation Biology

At least 3 credit hours must be in the subject area of advanced conservation biology. Allowable courses are listed below. The list may vary from year to year.

EFB 390	Wildlife Ecology & Management (4 cr.) <b>F</b>
EFB 413	Introduction to Conservation Biology (4 cr.) <b>S</b>

### B. Advanced Communication

At least 3 credit hours must be in the subject area of advanced communication. Allowable courses are listed below. The list may vary from year to year

EST 395	Public Communication of Science and Technology (3 cr.) <b>S</b>
EWP 394	The Art of Storytelling (3 cr.) <b>F</b>
EWP 407	Writing for Environmental and Science Professional (3 cr.) <b>F</b>
EWP 420	Advanced Public Presentation Skills (3 cr.) <b>F&amp;S</b>
EWP 450	Digital Storytelling (3 cr.) <b>F</b>
EWP 494	Creative Non-fiction in the Sciences (3 cr.) <b>S</b>
LSA 300	Digital Methods and Graphics I (3 cr.) <b>F</b>

### C. Advanced Interpretation

At least 3 credit hours must be in the subject area of advanced interpretation. Allowable courses are listed below. The list may vary slightly from year to year.

EST 491	Environmental Interpretation Field Experience (3 cr.) <b>Maymester, even years</b>
EST 573	Electronic Technology in Interpretation & Environmental Education (3 cr.) <b>S</b>

### D. Organismal Diversity

To encourage breadth in organism-level biology, students must complete 12 credit hours including at least one course from each of the four groups listed in the catalog. No single class may be used to simultaneously fulfill directed electives D & E.

#### 1. Diversity of Microorganisms

EFB 303	Introductory Environmental Microbiology (4 cr.) <b>F</b>
EFB 340	Forest and Shade Tree Pathology (3 cr.) <b>S</b>
EFB 342	Fungal Diversity and Ecology (3 cr.) <b>CLBS</b>
EFB 428	Mycorrhizal Ecology (3 cr.) <b>F, even year</b>
EFB 440	Mycology (3 cr.) <b>F</b>

#### 2. Diversity of Plants

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

### 3. Diversity of Invertebrate Animals

EFB 351	Forest Entomology (3 cr.) <b>F, even years</b>
EFB 352	Entomology (3 cr.) <b>F, odd years</b>
EFB 355	Invertebrate Zoology (4 cr.) <b>S</b>
EFB 453	Parasitology (3 cr.) <b>F</b>
EFB 554	Aquatic Entomology (3 cr.) <b>F</b>

### 4. Diversity of Vertebrate Animals

EFB 388	Ecology of Adirondack Fishes (3 cr.) <b>CLBS</b>
EFB 482	Ornithology (4 cr.) <b>S</b>
EFB 483	Mammal Diversity (4 cr.) <b>F</b>
EFB 485	Herpetology (3 cr.) <b>S</b>
EFB 486	Ichthyology (3 cr.) <b>S</b>

### E. Field Experience Elective (3 cr.)

This elective is often taken at Cranberry Lake Biological Station (CLBS), either during the post-first year or subsequent summer. A secondary option is EST 491, which may be offered during Maymester. Other options for this requirement need approval of the curriculum coordinator. No single class may be used to simultaneously fulfill directed electives D & E.

### F. Recreation and Tourism Management

At least 3 credit hours must be in the subject area of recreation and tourism management. Allowable courses are listed below. The list may vary from year to year.

FOR 404	Ecotourism Abroad (3 cr.) <b>S, even years</b>
FOR 475	Recreation Behavior and Management (3 cr.) <b>F</b>
FOR 476	Ecotourism and Nature Tourism (3 cr.) <b>F</b>
FOR 478	Wilderness and Wildlands Management (3 cr.) <b>F</b>

**Total Minimum Credits for Degree: 126**

## **Additional Departmental Resources**

In addition to this Handbook, please consult the following website:

- Department of Environmental Studies: <http://www.esf.edu/es>

Timely e-mail announcements are made via the ES-Majors e-mail listserv.

### ***Environmental Studies Student Organization***

The Environmental Studies Student Organization (ESSO) helps build a common identity for students in the Environmental Studies Department by providing a medium for student and faculty interaction and a means to represent student interests. The basic goals of the ESSO are to engage the ESF student body and to provide a unified voice for Environmental Studies students. The organization promotes participation and student activity within the major and educates incoming students and fellow ESF students about Environmental Studies. For further information, see: <http://www.esf.edu/es/esso.htm>

### ***Student Environmental Education Coalition (SEEC)***

The purpose of SEEC is to increase environmental awareness through on- and off-campus education. The goal of environmental awareness is to understand the effects of our individual and collective actions on the global environment. For further information, see: <https://www.facebook.com/sunyesfseec>

### ***Program Assessment***

The Department of Environmental Studies is committed to ongoing assessment and improvement of all of its academic programs. Accordingly, data will be periodically collected at the beginning, end, and mid-points throughout this and other programs, with the purpose of contributing to the evaluation of program effectiveness and to assist in program improvement.



# Appendix A: Environmental Studies BS Degree Option Declaration Form

## OPTION DECLARATION FORM

In order to pre-register for the first semester of the junior year, a student must first file the Option Declaration form with the department office. You will be assigned a new faculty advisor from the selected option for your junior and senior years.

Complete the form and submit to the Lower Division Advisor for signature and department submission. You will receive an email with your new faculty advisor name and contact information.

**Student Name (print):** \_\_\_\_\_

**Student email:** \_\_\_\_\_

**Student Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Option Selected (check one)**

- Environment, Communication and Society**
- Environmental Policy, Planning and Law**
- Natural Systems Applications**

**Lower Division Advisor signature:**

\_\_\_\_\_

Print Name	Signature	Date
------------	-----------	------

.....  
*For Department use only*

**Coordinator:** \_\_\_\_\_

**Appointed Advisor:** \_\_\_\_\_

*(Appointed by Undergraduate Environmental Studies Coordinator)*

## Appendix B: EST 499 Internship Materials and Information

### About Internships

Internships are required for those in the Environmental Education and Interpretation program and are an option for completing the Senior Synthesis Project for those in the Environmental Studies program. Internships are an excellent integrative experience and should be scheduled during the end of your junior year or beginning of senior year. While most individual courses concentrate in a disciplinary area, few environmental problems are resolved without synthesis of knowledge from different fields. The internship gives students the opportunity to work in a real-life situation in which knowledge and skills from previous courses are employed.

An internship experience is an opportunity to apply skills and knowledge learned from courses in a work/occupational setting. These experiences can be either paid or unpaid depending on the internship. To be considered for internship credit, the experience must have the following items designated before the internship starts: (1) a supervisor; (2) a scope of work and anticipated work schedule; (3) credit hours that coordinate with the number of hours worked (assignment of credit is made according to the general guideline that three hours of academically-related work per week for a 15 week semester – 45 hours – is the equivalent of 1 credit hour). An internship must be at least 3 credits to be considered for meeting credit requirements.

Completion of the following assignments is required to receive a grade:

1. Environmental Studies Internship Agreement Form – Submitted for review to the site supervisor, faculty advisor, and ES Internship Coordinator, Dr. Jill Weiss, prior to the beginning of the internship and/or beginning of the semester, whichever comes first. This form needs approval by all parties with final version submitted to the ES Internship Coordinator.
2. Internship Agreement Cover Sheet– Completed, signed by all parties (see cover sheet below), and submitted to the ES Internship Coordinator prior to the beginning of the internship and/or beginning of the semester.
3. Internship Evaluation Form (completed by the field supervisor) – Requested from supervisor at the end of the internship. Have supervisor send the form directly to the ES Internship Coordinator either through email or post mail.
4. Paper (format determined by ES Internship Coordinator, and provided in syllabus) reflecting on internship experience – Due by the end of the semester (can be submitted earlier if internship is completed before the end of the semester). Should include the following:
  - a. Background information on the internship.
  - b. Explanation of what you did during the internship – responsibilities and description of activities.
  - c. Explain what you learned during the internship and how it applies to what has been learned in the student's option area within Environmental Studies.
  - d. Address Environmental Studies or Environmental Education and Interpretation Program Learning Outcomes by answering the following questions: (1) What were the primary goals of your internship, project, or paper? (2) How well did you meet the stated goals for your internship, project or paper?; (3) How has your ES/EE&I coursework prepared you to understand and link to the work of your Internship (please avoid providing a summary of the work you completed during your internship; rather, focus more on the place of internship and the work of the organization/firm with whom you worked); and (4) How did the ES/EE&I program, including coursework and your synthesis, help you to meet the program learning outcomes (as listed in the handbook).

**Finding an appropriate internship and preparation of an EST 499 Internship Agreement is the responsibility of the student.** This process begins by meeting with your faculty advisor to discuss when you will complete the internship work and complete the synthesis paper (managed through the EST 499

online course), as well as your interests. They may be able to steer you to an organization or agency that has accepted interns with your professional focus in the past. They are also responsible for reviewing your internship agreement to make sure the internship is suitable for EST 499. Finding an internship takes time, so start the process **early. You may only sign up for EST 499 if an internship has been established.**

To assist in your internship search, take advantage of the Student Affairs Career Services Office, which provides support for finding and successfully completing an internship. Faculty advisors can also provide suggestions but should not be expected to find an internship for you. Students should also sign up for Handshake to view job postings and make appointments with Career Services staff. Jennifer Fazio is the SUNY-ESF Internship Coordinator. Students should explore interests and career opportunities through a variety of resources they provide. Internship opportunities exist for students in all majors. Please visit their website: <http://www.esf.edu/career/students/internships.htm>

The internship is just as much a part of your degree program as classroom instruction. It must be carefully planned in concert with the ES Internship Coordinator and off-campus work supervisor to assure that it meets your educational objectives. Both will participate in evaluation of the experience. The EST 499 Internship Agreement is the formal agreement that serves as the basis for preparing, conducting and evaluation of your internship. See the following page for an outline showing what an internship agreement should include.

## Instructions for EST 499 Internship Agreement

You should type up your internship agreement making sure to include **all** of the following sections. Attach this agreement to a completed Internship Agreement Form (see below).

### 1. Your Name

### 2. Your Program of Study

3. **Internship Title:** Please use a descriptive yet concise title.

### 4. Internship Host Organization

### 5. Field supervisor

### 6. Internship Start Date

7. **Internship End Date:** This date is meant to serve as a reminder to all those involved in the Agreement of how long the internship may reasonably be expected to last. If it takes more time than estimated, an extension of up to one semester may be given and credit will be awarded when it is completed.

8. **Duration of Internship:** How many weeks long will the internship be?

9. **Anticipated Work Schedule:** The field supervisor and student establish an anticipated regular work schedule. This should include the number of hours to be worked each week.

10. **Total Hours of Internship:** This is should be the number of hours per week multiplied by the number of weeks.

11. **Credit Hours:** The internship requirement is a minimum 135 hours (equal to 3 credit hours of *academically* related work). Normally no more than three credit hours of internship should be included to meet EST 499 requirements. You should check with your field supervisor prior to accepting an internship to make sure that this number can be achieved.

12. **Scope of Work.** This is the most important part of your Agreement and must be completed only after careful consultation with the field supervisor and accepted by your faculty advisor. Describe your **academic** plans for the internship as fully as you can. What will you actually study or do? Where will you be working? With whom will you be working? Will you be doing research? If so, on what, for what purpose, and how will your findings be reported? Be as specific and clear as possible.

13. **Internship Objectives.** What do you wish to learn? What skills or concepts do you wish to master? Does the internship lead toward more advanced studies or toward a professional career? These objectives should be stated in a way that they may be evaluated at the internship's conclusion. It might be helpful to keep in mind the overall objectives for any internship:

- Provide an opportunity for an exploratory professional experience in a 'working environment' and for application of skill learned in the university setting;
- Provide understanding and appreciation of the social and institutional milieu within which environmental issues must be addressed; and
- Result in *academic* progression beyond the student's previous academic achievement.

14. **Necessary Skills and Previous Experience:** What particular skills are necessary to fulfill the scope of work? In what way have you prepared yourself to provide these skills? Have you studied this topic before? List course numbers where appropriate. Or have you developed the interest on your own? To what extent?

**15. Support Being Provided:** What kind of guidance will the field supervisor provide? How often will you meet? What will be their responsibilities in arranging for the use of resources and equipment? You and the field supervisor should be satisfied with the exact terms of the Agreement before signing the cover sheet. The ES Internship Coordinator will also review to make sure this is suitable.

**16. Evaluation Procedures:** How will you and those working with you know that the internship has been satisfactorily completed? Specify any expected products that will result from the internship. Will you be submitting papers, video or audio recordings, photographs, sketches, or a professional journal? If you are primarily trying to acquire a certain experience, how will it be embodied? On what grounds will this work be *academically* evaluated? By what methods will the internship be evaluated--oral or written examinations, or other demonstration of competence? Remember to refer back to your stated internship objectives.

**Important Note**

*All Senior Synthesis internship projects are expected to produce a minimum of a 10-page paper reflecting on the experience, what was learned, and its relevance to your program of study and future goals.*



# EST 499 Internship Evaluation Form

Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

Student: \_\_\_\_\_

*Please rate the student intern on each of the characteristics listed below by circling the appropriate number:  
(1) Unable to Judge, (2) Unsatisfactory, (3) Average, (4) Above Average or (5) Outstanding.*

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Ability to learn   | 1 | 2 | 3 | 4 | 5 |
| 2. Interest   | 1 | 2 | 3 | 4 | 5 |
| 3. Preparation of tasks and assignments                               | 1 | 2 | 3 | 4 | 5 |
| 4. Initiative: desire and willingness to take on new assignments      | 1 | 2 | 3 | 4 | 5 |
| 5. Quality of work performed  | 1 | 2 | 3 | 4 | 5 |
| 6. Acceptance of work performed                                       | 1 | 2 | 3 | 4 | 5 |
| 7. Reaction to criticism  | 1 | 2 | 3 | 4 | 5 |
| 8. Cooperation: willingness to work effectively with others           | 1 | 2 | 3 | 4 | 5 |
| 9. Dependability: working through an assignment to completion         | 1 | 2 | 3 | 4 | 5 |
| 10. Judgment  | 1 | 2 | 3 | 4 | 5 |
| 11. Communication skills  | 1 | 2 | 3 | 4 | 5 |
| 12. Potential for further development in the field                    | 1 | 2 | 3 | 4 | 5 |
| 13. Creativity and/or resourcefulness                                 | 1 | 2 | 3 | 4 | 5 |
| 14. Degree in which the intern accomplished the internship objectives | 1 | 2 | 3 | 4 | 5 |
| 15. Overall evaluation of the intern's performance                    | 1 | 2 | 3 | 4 | 5 |

1. Did the intern fulfill the number of working hours specified for the internship period?
  
2. Where your expectations of the intern met, exceeded, or not met?
  
3. In what ways? (Please comment on the student's overall performance, including any strengths or weaknesses you feel are important.)
  
4. Did you find the College staff helpful?
  
5. In what ways? (Please comment or make suggestions regarding improvement of the program and/or its service to your organization.)
  
6. Would you be willing to host another such intern in the future? Why?

Supervisor Signature: \_\_\_\_\_ Date \_\_\_\_\_

Organization: \_\_\_\_\_

**Please mail this completed internship evaluation to the Faculty Sponsor listed on the Internship Agreement Form you signed prior to the Internship.**



## Appendix C: EST 400 Senior Paper

A Senior Paper or Project provides an additional opportunity for Environmental Studies Seniors to complete their program requirement for a 3 credit-hour Senior Synthesis. This Senior Synthesis Option should be discussed in advance your faculty advisor. The Senior Paper/ Project will be on an environmental subject and completed according to the guidelines below.

This experience is intended to provide an opportunity for synthesis of the student's Environmental Studies education with an emphasis on learning within the student's Option area. As such, it depends on prior learning in other courses and is normally completed in the final semester of study.

### Guidelines

*A. Work required:* To complete the requirements for this course, students must undertake the effort and produce a quantity of work that is required in a typical advanced 3 credit hour Environmental Studies course (an average of 3 hours of work per week over a 15 week semester). The work must also be original and must not have been developed as part of another earlier course.

*B. Paper/ Project Options:* There are three ways to pursue the Senior Paper:

1. A literature-based paper. In this case, the student researches the literature on a specific topic or question related to their Option area and produces a literature review style paper that makes an argument about what is known on the topic.
2. A primary research paper. In this case, the student conducts a piece of original research on a specific topic related to their Option area and produces a journal article style paper. Care must be exercised if working with human subjects as the research may be subject to review by the IRB.
3. A project. In this case, the student undertakes a creative or community-based project related to their Option area. Examples of creative projects include videos, art works, creative writing, etc. Examples of community-based projects include habitat conservation initiatives, public education projects, policy outreach, etc. There are many possibilities here, but care must be exercised in the choice of project and its ramifications for the student and any community stakeholders. In addition to undertaking the project, the student must provide a brief written report on the project that explains how the project demonstrates Synthesis in ES.

*C. First steps:* Students should begin by discussing possible paper topics or projects with their Advisor and/or with other faculty members familiar with the subject area. Through these conversations, the student, the Advisor, and other relevant faculty members should agree on a topic, the details of the paper/project, and a timetable for completion. **Note:** the Advisor is not required to supervise the Senior Paper/Project. Any faculty member can do so, as long as they agree to.

*D. Memorandum of agreement:* Based on conversations with the Advisor and/or another relevant faculty member who has agreed to supervise the paper/project, the student should draft a memorandum of agreement about the paper/project. This should include the following:

1. Title of the paper/project
2. Name and contact information for the student and the supervisor
3. Description of the paper/project
4. Explanation of how the paper/project will represent a synthesis of the what has been learned in the program
5. Learning objectives for the paper/project
6. Timeline for the phases of the research/production and monitoring of progress
7. Expected deliverables that will be produced and used as the basis for grading the paper/project

The supervising faculty member and the student will then work on a final version of the memo of agreement which should be signed well in advance of the registration deadline for the semester in which the student will enroll in EST 400. If the supervisor is not the student's Advisor, then the Advisor should be provided with a copy of the memo.

*E. Registration:* The student should register for the section of EST 400 corresponding to the faculty member who is supervising the paper/ project. This should be done only after the student and the supervising faculty member have both signed the memo of agreement

*F. Monitoring of Progress:* The student and the supervising faculty member must be in regular contact during the semester to ensure timely progress and monitoring. This ensures the work gets done and good choices are made along the way.

*G. Final Output and Submission:* The final output depends on the type of paper/project. In the case of a paper (either type), the output should be the paper. In the case of a project, the output will depend on how it can best be documented, but must always include a brief written report on the project that explains how the project demonstrates synthesis in Environmental Studies. All materials should be completed no later than the last day of classes.

When the Senior Paper/ Project has been brought to final form and the supervising faculty member is satisfied that it is complete, it will be graded. An unmarked, digital copy of the final submission should be submitted to the Environmental Studies Department Office for permanent collection.

All work should meet a high standard in execution, formatting, documentation, and appearance. Written works (paper or report) must have a title page, with the title and author indicated at the center of the page, and in the Lower right, the words "Senior Paper/ Project in (Option Name)", the name of the faculty supervisor of the Senior Paper/ Project, and the date of submission.

## **Appendix D: Environmental Studies Department Faculty and Staff**

### **Chair**

#### **Benette Whitmore**

Department Chair, 211 Baker Laboratory, 315-470-6695, [bwhitmor@esf.edu](mailto:bwhitmor@esf.edu)

### **Associate Chair**

#### **Theresa Selfa**

Associate Chair, 220 Baker Laboratory, 315-470-6570, [tselfa@esf.edu](mailto:tselfa@esf.edu)

### **Undergraduate Studies Coordinator**

#### **Andrea Feldpausch-Parker**

Associate Professor, 216 Baker Laboratory, 315-470-6573, [amparker@esf.edu](mailto:amparker@esf.edu)

### **Staff**

#### **Rebecca Hart**

Departmental Secretary, 212 Baker Laboratory, 315-470-6636, [rhart01@esf.edu](mailto:rhart01@esf.edu)

#### **Erin Tochelli**

1<sup>st</sup> and 2<sup>nd</sup> Year Advisor, 245 Baker Laboratory, 315-470-6943, [ertochel@esf.edu](mailto:ertochel@esf.edu)

### **Faculty**

**Mary Collins** (Socio-Environmental Systems, Environmental Health Inequality, Environmental Justice), 215 Baker Laboratory, 315-470-6538, [mbcollin@esf.edu](mailto:mbcollin@esf.edu)

**Joshua Cousins** (Political Ecology, Urban Geography, Urban Sustainability and Resilience, Water Policy and Governance, Water and Energy Infrastructure), 221 Baker Laboratory, 315-470-6576, [jcousins@esf.edu](mailto:jcousins@esf.edu)

**Shari Dann** (Community Engagement, Environmental Education, Natural Resources Conservation) 215 Baker Laboratory, phone TBD, [sdann@esf.edu](mailto:sdann@esf.edu)

**Andrea M. Feldpausch-Parker** (Environmental Communication, Advocacy, Conflict Resolution, Public Engagement in Environmental Decision-making), 216 Baker Laboratory, 315-470-6573, [amparker@esf.edu](mailto:amparker@esf.edu)

**Paul Hirsch** (Biodiversity Conservation, Environmental Conflict Resolution, Water) 214 Baker Laboratory, 404-512-4473, [pahirsch@esf.edu](mailto:pahirsch@esf.edu)

**Silje Kristiansen** (Environmental, Risk, and Science Communication; Food Systems; Media Studies; Climate Change; Energy), 217 Baker Laboratory, 315-470-3022

**Christina Limpert** (Nature, Culture, and Politics; Critical, Feminist and Gender Theories; Qualitative Research), 213 Baker Laboratory, 315-470-6722, [cmlimper@esf.edu](mailto:cmlimper@esf.edu)

**Valerie A. Luzadis** (Social-Ecological Systems, Ecological Economics and Policy), 217 Baker Laboratory, 315-470-6980, [vluzadis@esf.edu](mailto:vluzadis@esf.edu)

**Sharon D. Moran** (Environmental Policy, Government and Water Resources), 224 Baker Laboratory, 315-470-6690, [smoran@esf.edu](mailto:smoran@esf.edu)

**Theresa Selfa** (Environmental Sociology, Qualitative Research Methods, Bioenergy and Water Governance, Latin America), 220 Baker Laboratory, 315-470-6570, [tselfa@esf.edu](mailto:tselfa@esf.edu)

**David A. Sonnenfeld** (Environmental Sociology, Comparative Environmental Politics, Water Governance), 214 Baker Laboratory, 315-470-4931, [dsonn@esf.edu](mailto:dsonn@esf.edu)

**Lemir Teron** (Political Ecology, Urban Studies, Environmental Justice, Coastal Communities), 213 Baker Laboratory, 315-565-3004, [lteron@esf.edu](mailto:lteron@esf.edu)

**Elizabeth Vidon** (Nature-based Tourism, Wilderness and Nature, Environmental Perception), 221 Baker Laboratory, 315-470-6908, [esvidon@esf.edu](mailto:esvidon@esf.edu)

**Jill Weiss** (Socio-ecological Systems, Co-adaptive Management, Conservation Behaviors and Psychology), 224 Baker Laboratory, 315-470-6781, [jiweiss@esf.edu](mailto:jiweiss@esf.edu)

## Appendix E: Additional Educational Opportunities

### *Academic Minors*

(<http://www.esf.edu/academics/minors.htm>)

The list of available minors includes:

- [Applied Statistics](#)
- [Bioprocess Science](#)
- [Biotechnology](#)
- [Chemistry](#)
- [Computer and Information Technology](#)
- [Construction Management](#)
- [Economics](#)
- [Environmental Biology](#)
- [Environmental Health](#)
- [Environmental Policy and Communication](#)
- [Environmental Writing & Rhetoric](#)
- [Food Studies](#)
- [Forestry](#)
- [Information Management and Technology](#)
- [Landscape Architecture Studies](#)
- [Management](#)
- [Marine Science](#)
- [Mathematics](#)
- [Microscopy](#)
- [Native Peoples and the Environment](#)
- [Paper Science](#)
- [Physics](#)
- [Recreation Resource and Protected Area Management](#)
- [Renewable Energy](#)
- [Sustainable Construction](#)
- [Urban Environmental Science](#)
- [Urban Forestry](#)
- [Water Resources](#)

### *Study Abroad*

(<http://www.esf.edu/studyabroad/>)

SUNY-ESF is committed to enhancing the internationalization of ESF students' academic experiences. ESF believes strongly that international experiences provide students with the opportunity to develop the skills necessary to be informed, active, responsible, and culturally-sensitive global citizens. The Department of Environmental Studies has fostered relationships with Study Abroad programs including SeaSemester and a university in Argentina. We have also established programs for study away semesters, including a semester in the Adirondacks at the ESF campus or with the Wild Rockies Field Institute in the Western US.

The Office of International Education assists students who wish to participate in the College's diverse study and research abroad opportunities noted below:

- **SUNY-ESF Faculty-led, Short-term International Academic Courses**
- **SUNY-ESF Exchange Programs**
- **Off-Campus Study and Study Abroad Programs offered through Non-ESF Institutions** (SUNY system, Syracuse University, affiliated programs and non-affiliated programs)

- **Student Research and Non-Academic Programs Abroad**
- ***Study Abroad Related Inquiries***  
Office of International Education, [OIE@esf.edu](mailto:OIE@esf.edu)  
Kerrie Findlay, Coordinator of Education Abroad  
SUNY-ESF, Old Green House, (315) 470-4903 (Phone)

### ***ESF Honors Program***

(<http://www.esf.edu/honors/>)

The ESF Honors Program is a two-way street: the College provides enrichment, experience and special opportunities for our most promising students and our honors students provide leadership and service to the Honors Program, the College, and the broader community. Honors students translate their academic skills into leadership, service or both (e.g., undergraduate student government, leadership or membership on special committees, student clubs), or in campus service (e.g., Orientation Leaders, student mentors, ESF ambassadors). We hope former honors students will return to campus after graduation to share their post-graduate experiences with their younger peers.

In line with these broad goals, ESF offers two distinct honors programs, lower division honors and upper division honors.

The Lower Division Honors Program provides first- and second-year students with value-added educational experiences that engage students in unique challenges. Academic components of the program strengthen exploration and communication skills through interdisciplinary assignments and discussion.

The Upper Division Honors Program provides opportunities for junior and senior students to complete intensive research and creative projects under the guidance of faculty, emphasizing and encouraging holistic and multidisciplinary awareness of the problems and opportunities in studying the environment.

Students who maintain good standing in honors will receive early Registration privileges and access to honors sections of courses offered at Syracuse University and ESF.

- **Stewart Diemont**, Co-Director, 460 Illick Hall, 315-470-4704, [sdiemont@esf.edu](mailto:sdiemont@esf.edu)

### ***Pre-Law Advising***

(<http://www.esf.edu/prelaw/>)

ESF offers pre-professional advising to students interested in pursuing law as a profession. Unlike some other professional programs, law schools do not require or recommend a specific program of study or specific coursework. Instead, the Law School Admissions Council advises students who are interested in the legal profession to pursue undergraduate education that demonstrates success in intellectually challenging curricula that enhance students' critical thinking skills.

The ESF pre-law program helps students understand the opportunities in environmental law and develop a law school application package that demonstrates to law schools their true potential. The program is based primarily on individual pre-law advising between the student and Dr. Tristan Brown, ESF's Pre-law advisor.

- **ESF's Prelaw Advisor: Tristan Brown**, Dept. of Sustainable Resources Management, 302 Bray Hall, 315-565-3003, [trbro100@esf.edu](mailto:trbro100@esf.edu)

## **Appendix F: Academic Advising and Registration for both the Environmental Studies and Environmental Education & Interpretation Programs**

### ***The Role of Your Academic Advisor***

During your stay at ESF, many people will give you advice. The most important of those people is your academic advisor. Your academic advisor is responsible for advising you on all academic matters related to your program. They are also responsible for ensuring that your selection of courses each semester is appropriate to where you are in your program. Students are responsible for meeting with their advisors on a regular basis. In college, the primary responsibility for successful progress lies with students.

Students typically have two advisors during their years in the Environmental Studies Department. The first and second-year advisor, Erin Tochelli, advises all incoming students, including transfer students. At the end of Sophomore year, students will be assigned a faculty advisor for their remaining years in the program.

To maximize your educational experience, it is important to use the resources of your advisor effectively. In particular, students new to ESF, or to the Department of Environmental Studies, should meet with their academic advisor during the first few weeks of classes. The advising relationship begins here, making it easier to address student goals, concerns, and problems that arise.

Office hours meetings with your academic advisor help promote an advising relationship in which academic and career goals can be discussed in a more personal and individualized manner. Each faculty member posts regularly scheduled office hours at the start of the semester. Students may schedule appointments, drop by, or call during these office hours. Faculty members may also be contacted by e-mail, but are not always able to respond immediately.

Where it is difficult to reach your academic advisor, other faculty members or administrators may be able to assist. If you can't get a hold of your academic advisor, see the Undergraduate Studies Coordinator during her/ his office hours. For urgent matters, contact the Departmental Secretary, in 212 Baker Laboratory, for assistance.

### ***Plan Sheets***

Your Plan Sheet is the official record of progress toward meeting the program requirements for graduation. Your plan sheet is available on-line, and it should be consulted periodically during the year to check your status and to plan for upcoming program-related course decisions. You should work with your academic advisor on a regular basis to make sure that it accurately reflects the courses you have taken and the requirements they fulfill. The Registrar's computer will automatically "match" courses in which you've registered that are exactly a specific course that is required, such as EST 132. *Any other course which you take will be placed in the category "unmatched" and will not be counted toward graduation until your Advisor informs the Registrar where to place it. This should be done twice a year, and students need to be pro-active in this process.*

### ***Progress of First Year Students***

The College asks faculty who are teaching first-year students to submit "Mid-semester Progress Reports" in the Fall and Spring. This review contains four categories: Attendance, Participation, Submitted Work, and Exams/ Quizzes. Evaluations for each are: Satisfactory (S), or Unsatisfactory (U). Advisors are sent copies of the Reports. Students receiving any unsatisfactory reviews are expected to meet immediately with the professor of the course in question, and subsequently to meet with their academic advisor to discuss the situation and its resolution.

## ***Registration***

About three quarters of the way through each semester there is an advising period followed by a registration period for the next semester. During this time, you need to meet with your academic advisor and prepare your registration form (SCORE form). After your academic advisor approves your course choices, you complete the registration process through the Registrar's office and online using the registration system.

Prior to meeting with your academic advisor, you need to review your unmatched courses (see 2 above), consider your outstanding course requirements and the possible Options for satisfying them. This means reviewing your Plan Sheet and course offerings, and developing a preliminary schedule for discussion.

The College has clear policies on **adding and dropping** courses after the semester starts. You need to be aware of these policies and of the relevant deadlines (see the academic calendar at the front of this Handbook). These actions require your academic advisor's signature and revision of your plan sheet. In general, your academic advisor must balance recommended academic progress with your particular circumstances. You should be particularly aware of the implications (financial aid, insurance, etc.) if you drop below "full time" status. Generally this is considered a course load of twelve (12) credit hours, though in some cases it may be more or less. Late drops are only approved for extenuating circumstances. See the section on The Petition Process later in this Handbook.

## ***Taking Courses at Syracuse University***

ESF and Syracuse University (SU) have an agreement governing accessory instruction. If interested in taking courses at SU, please talk with your academic advisor about possibilities and review the following webpage (<http://www.esf.edu/registrar/accessory.htm>) as well as the text below. Please contact the [Registrar's office](#) if you have additional questions.

**At entry, ESF students will be given an allocation of Syracuse University credit hours (CH) covered by their ESF tuition and fees.**

- For first year students (non-transfers), the allocation will be 16 CH.
- For transfer students, the allocation will depend on the number of hours transferred from other institutions.
  - It will decline linearly from 16 CH for students with 0 transfer hours to 4 CH at 90 transfer hours (see attached table). The minimum allocation will be 4 CH.

**ESF students may use only a portion of their allocation during the first and second years.**

- Upon matriculation at ESF, first-year students may use no more than 8 of their 16 credit hours allocation in their initial two, full-time semesters.
- Students who have matriculated at ESF as first-year students may use no more than 11 of their 16 credit hours allocation during their first four, full-time semesters.
- Transfer students may also have restrictions on the portion of their SU CH allocations that may be used during the first four full-time semesters of their ESF programs of study (POS). The attached table shows the credit limits.

**ESF students will have the option to purchase additional SU credit hours beyond their allocations and to pay for those through a tuition surcharge.**

- The cost per CH will be approximately \$351.50.
- This tuition surcharge will be paid as part of the tuition bill collected by ESF for the semester. ESF will remit the tuition surcharge in full to SU.
- Students may purchase additional SU credits when they exceed their total credit hour allocation or when they exceed their first year or second year limits.



### *Courses outside ESF/SU*

Any courses you take at other institutions after admission to ESF do not become part of your ESF program records until the two following steps are completed. First, you need to have an official transcript for that course sent to the ESF Registrar from the institution where you took the course. Second, you need to have an approved petition requesting that the course be accepted as meeting a specific Environmental Studies course requirement. As explained below, it is best to have this petition completed and approved **before you enroll in the course**. That way, once courses are successfully completed, you are guaranteed to have the credits count at ESF.

### *Academic Petitions*

There are two primary reasons for filing a petition. First, to change something in a student's degree requirements; this occurs when a different course is deemed more appropriate for a student than a required or suggested course but covers essentially the same material. Second, petitions are filed to transfer credits from another institution after the admission process is complete. A list of Transfer Articulation Guidelines is available on the Admissions homepage. Three situations are largely the reason for this. The course may be an Upper Division course taken at another college before transfer to ESF and thus outside the admissions process. Sometimes, a pre-approval for transfer course was missed at admission. The course credits may be beyond the allotted credit transfer under admissions rules, or a course may be a required course but taken at another institution over a summer. Other times a petition is warranted include 'late adds' or 'late drops' of a course or when an undergraduate wishes to register for a 600-level class.

The campus myth that "you can petition anything" should be dispelled wherever possible; approval of a petition is NOT automatic. After the faculty advisor signs a petition form, each petition is reviewed by the Undergraduate Studies Coordinator and the Dean of Instruction and Graduate Studies. Further, the Dean may choose to consult with the Committee on Instruction (Academic Standards Subcommittee) before acting. Therefore one important part of advising is when, where, and how to file a petition. A particularly problematic petition is the petition for late drop of a course. These are approved only rarely, and only under exceptional circumstances. The following section is taken from the Registrar's homepage and is worth reading closely before petitioning for a late drop of any course.

Environmental Studies Program Only: Occasionally, students may wish to change their Option. In this case, a change of academic advisor is required, and requests of this type should be brought to the attention of the Undergraduate Studies Curriculum Coordinator. However, you are CAUTIONED against requesting a change of Option without prior consultation with the Coordinator of the intended new Option. Changing your Option can cause SIGNIFICANT CREDIT HOUR SLIPPAGE in the completion of your program, due to the need to make up Option courses scheduled for normal completion in the first semester(s) of study. Courses in one Option may not be useful in another Option. If Option changes are to be made, it is strongly recommended that such changes be requested during the first semester of study, and at as early a date as feasible in that semester. Changing your Option is done via the ESF Petition process

### ***What to Include in Your Petition***

The following list identifies the information needed in each section of the petition form for each of the areas for which petitions may be filed and what information should be appended (if any).

<b><i>Needed Information</i></b>	<b><i>Type of Request</i></b>		
	<b>Program Variance</b>	<b>Transfer</b>	<b>Late Add/Drop</b>
<b>Required Information</b>	Complete all student parts of the form, sign and date and obtain your advisor's signature.	Same as Program Variance	Same as Program Variance
<b>Request</b> (What is being petitioned for)	A careful wording of the variance includes what is to be replaced and what it is to be replaced by (course numbers and names are helpful).	A clear statement of course credits to be transferred, from what college, and how to allocate it on the plan sheet (course numbers and names are helpful).	A statement of what course is to be added and/or dropped (course numbers and names are helpful).
<b>Justification</b> (More detail is better here)	Explain clearly <i>why</i> this variance meets the goals and objectives of the program, as well as the course it is replacing, and how it contributes to a coherent program of student for the student.	More detail is better here. Explain clearly <i>why</i> this course and credit transfer meets the goals and objectives of the program, and is the same or substantially similar to the course it is replacing.	Explain clearly <i>why</i> the course is being added or dropped late (financial aid problem, illness, etc.).
<b>Signatures</b>	In the following order: • Faculty Advisor, • Undergraduate Studies (Co-) Coordinator • Dean of Instruction	In the following order: • Faculty Advisor, • Undergraduate Studies (Co-) Coordinator • Dean of Instruction	In the following order: • Faculty Advisor, • Undergraduate Studies (Co-) Coordinator • Dean of Instruction
<b>Additional Information</b> (Things you might want to attach to the petition)	Improve the rate of approval by appending the following: • The catalog description of the course, the course syllabus, or the internship or independent study approved proposal • The ESF catalog description of the course to be replaced.	Improve the rate of approval by appending the following: • The transfer college catalog description of the course (or the course syllabus) • The ESF catalog description of the course to be replaced.	Improve the rate of approval by, appending the following: • Verification of events which occurred generally at or after the drop date) which make it impossible for the student to continue in the course. • Academic difficulty in the course is not considered justification.

<b>NOTES</b>	To enroll in a 600-level course a student must meet several criteria: be a Senior, a GPA of 3.0 or better, an approved petition with the course instructor's consent (also required on the SCORE form)		Late course adds are generally easy to obtain. Late drops go automatically to the Academic Standards Sub-Committee of the Committee on Instruction. Please see the section below on Guideline Criteria for Successful Late Drops.
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### *Withdrawal from Individual Courses*

Students may drop individual courses up until the **last day to add** as set by the Registrar in the ESF Academic Calendar using an **add/drop form**. Dropped courses during this period will be completely removed from the transcript when dropped on or before this deadline.

### **Deadlines and actions to be taken after the last day to add deadline are:**

- **Last day to add – Week 4:** After the **last day to add** (as per the academic calendar), students may drop a course without record of registration, until the end of the 4th week of classes.
- **Weeks 5-9:** A student who withdraws from a course after the last day of the **4th week and by the last day of the 9th week** will receive a W (Withdraw) grade on his or her permanent transcript, and the student will remain on the course roster. The W grade will not affect the GPA, and is not replaceable with an R grade.
- **Weeks 10-14:** A student who withdraws from a course after the last day of the **9th week and by the last day of the 14th week** will receive a W or a WF (withdraw failing) on his or her permanent transcript, and the student will remain on the course roster. The WF grade will not count in the student's GPA. W and WF grades are not replaceable with an R grade. The W (when assigned after the last day of the 9th week) and WF grade will be assigned by the instructor at the end of the semester.

Precise deadline dates noting the official end of weeks above shall be listed on the ESF Academic Calendar found on the Registrar's webpage ([www.esf.edu/registrar/calendar.asp](http://www.esf.edu/registrar/calendar.asp))

### **Relevant Advising Forms Available Online:**

<https://drive.google.com/drive/folders/16qecwxGyGoPZ5qYKSy-KFcRzrb-inSUG>

- Undergraduate Student Change of Major Form
- SUNY ESF Registration Form
- Request for Individual Course Withdrawal Form
- Option Declaration Form (for Environmental Studies BS Degree students only)
- Internship Coversheet Form (for EST 499)
- ESF Minor Enrollment Form
- Petition Form
- Transfer Credit Petition Form

## Appendix G: Department of Environmental Studies Process for Transferring Majors as an ESF Student

Thank you for your interest in transferring into a Major in Environmental Studies (EST) or Environmental Education & Interpretation (EEI). Be sure to discuss your interest in changing majors with your current academic advisor.

### Transfer Process

The following steps are part of the transfer process.

1. Put together a Transfer Packet including the following:
  - a. Statement of Purpose providing:
    - i. Short essay on why you want to major in Environmental Studies or Environmental Education & Interpretation;
    - ii. Table listing what courses you would need to take in the relevant curriculum (see relevant section in this handbook for guidance); and
    - iii. Best estimate of which semester and year you would anticipate graduating with said degree;
  - b. Copy of your ESF Grade Report; and
  - c. Copy of your current ESF Curriculum Plan Sheet.
2. Email the Transfer Packet as a single PDF document to the Departmental Secretary, Rebecca Hart (rhart01@esf.edu).
  - a. The transfer packet submission **deadline is October 1<sup>st</sup>** in the fall semester; **March 1<sup>st</sup>** in the spring semester;
  - b. The subject line should read: “Transfer Packet: Last Name, First Name”;
  - c. In your message, please request a transfer planning meeting **within 2 weeks prior** to the transfer packet deadline.
3. Complete a transfer planning meeting with the Environmental Studies Undergraduate Curriculum Coordinator. Please bring a Change of Major form with you to this meeting to start the paperwork process. All transfer planning meetings need to be held before the above deadline to ensure that you will be assigned an academic advisor before advising week.