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

This course proposal form should be completed when introducing a new course or a revision of an existing course. The proposal will be reviewed by the Committee on Curriculum, or, in the case of minor revisions, will be approved administratively by the Associate Provost for Instruction.

This Course Proposal must be completed according to the guidelines provided in Course Proposal Form – Instructions and Guidance. Please see the last page of Course Proposal Form – Instructions and Guidance, for instructions on how this Course Proposal should be submitted to the Committee on Curriculum for review.

Date: 12 March 2018

1. Course Information:

1.1 Course Prefix and Number: EHS 250
    Course Title: Foundations of Environmental Health

1.2 □ This is a New Course.
    OR
    □ This is a Major Course Revision
    OR
    ☒ This is a Minor Course Revision

If this is a Course Revision, please see Course Proposal Form – Instructions and Guidance to determine if your revision is major or minor. Indicate below the reason(s) for the revision.

(Please check all that apply)

☐ Course Number/Division  ☐ Learning Outcomes  ☐ Institutional Resources
☐ Title  ☐ Concepts, Content  ☐ Semester Offered
☐ Credit hours  ☐ Catalog Description  ☐ Course Inactivation
☐ Pre- or Co-requisite(s)  ☐ Instructional Methods  ☐ Course Reactivation
☐ Format  ☐ General Education

1.3 General Education knowledge and skills area (if applicable): If none, check here ☒

☐ American History  ☐ Humanities  ☐ Other World Civilizations
☐ The Arts  ☐ Mathematics  ☐ Social Sciences
☐ Basic Communication  ☐ Natural Sciences  ☐ Western Civilization
2. Proposer Need Statement:

2.1 Describe why this course (or course revision) is needed to meet current or proposed goals and outcomes of the program or College, and, if a revision, provide an explanation of and justification for the revision.

This will be an introductory course to the field of Environmental Health, and will serve as the first program specific course for students in the Environmental Health major. This course will teach students about the various aspects of Environmental Health, and acquaint them with the wide range of issues that public and environmental health professionals face.

The revision is to allow time for the course to go into listed material in more depth.

2.2 List the pre-requisite or co-requisite courses (taught within the home department or taught by another department) and explain their relationship to the proposed course.

One year each of Biology with lab (EFB 101 and 103, EFB 103 and 104), General Chemistry (FCH 151 and 152, FCH 153 and 154) and Calculus (APM 105 and 106). These courses are required for students to understand the biological and chemical basis of Environmental Health problems; Calculus is required for students to understand the basis of analyzing risks.

2.3 Explain the impact of this course in meeting the goals and outcomes of other Departments/programs (if any).

This course is open to any ESF student who wishes to learn about Environmental Health, but is not required nor does it impact the goals or outcomes of any other Departments or majors.

2.4 If the proposed course is designed to fulfill SUNY General Education Requirements, the Associate Provost for Instruction must review this proposal to ensure that General Education Requirements will be met for the specified knowledge area (See Instructions and Guidance). Please provide an explanation of how this course fulfills SUNY General Education Requirements.

Not applicable

2.5 What are the staffing requirements (instructor, TA, Lab tech, etc.) for this course? If a new course, are there new staffing needs or are there adequate staff members already in place? If a revised course, are there additional staffing needs?

No Change from existing course.

2.6 What Department (or extra-Department) resources are or will be made available to support the course or course revision?

As an introductory course, no resources beyond faculty time area expected to be needed. A full time instructor from the Environmental Studies Department, Mary Collins, is assigned to teach this course.

2.7 Anticipated Enrollment (enter where applicable)

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester:</th>
<th>Spring Semester:</th>
<th>Summer Semester:</th>
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<tbody>
<tr>
<td></td>
<td>25</td>
<td>0</td>
<td>0</td>
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2.8 Anticipated frequency of class meetings.

Twice weekly
3. DETAILED COURSE DESCRIPTION

3.1 COURSE IDENTIFICATION AND FORMAT:

3.1.1 Course Prefix and Number: EHS
3.1.2 Course Name: 250
3.1.3 Credit Hours: 2
3.1.4 Semester (check all that apply): Fall ☒ Spring ☐ Summer ☐
3.1.5 Format (check as appropriate): Lecture ☒ Online ☐ Lab ☐ Field ☐

Other ☒ (explain) group discussion and guest speakers
3.1.6 Contact hours per week: 2
3.1.7 Prerequisite(s) – if none, please enter "None" (Be specific, as Upper Division courses and Graduate courses will likely have some pre-requisite knowledge) None

One year each of Biology with lab (EFB 101 and 103, EFB 103 and 104), General Chemistry (FCH 151 and 152, FCH 153 and 154) and Calculus (APM 105 and 106).

3.2 SCOPE:

3.2.1 Level of Instruction (check one, or two if a shared resource course):

Lower Division ☒ Upper Division ☐
Beginning Graduate ☐ Advanced Graduate ☐

3.2.2 Relation to curriculum or to other ESF or Syracuse University courses:

a. Is this a required course? No ☐ Yes ☒.
   If Yes, please list the program(s) for which it is a requirement: Environmental Health Science
b. Is this an elective course? No ☐ Yes ☒.
   This course is also an elective course of any ESF or SU student
c. Is enrollment in this course restricted? No ☐ Yes ☒.
   If Yes, please explain:
d. Are other ESF or SU courses similar or identical to this course? No ☒ Yes ☐.
   If Yes, please identify the courses:
e. Is this course a shared resource offering (i.e. is there a graduate or undergraduate concurrent offering)? No ☒ Yes ☐.
   If Yes, what is the course number of the concurrent offering?

3.3 STUDENT LEARNING OUTCOMES:

Identify the student learning outcomes associated with this course.

1. Define Environmental Health
2. Discuss the role of environmental health as part of overall public health
3. Interpret major problems in environmental health in the world and the U.S.
4. List and describe the steps involved in risk assessment
5. Describe the role of environmental health regulatory agencies at international to local levels and their role in policy development
6. List and discuss the known health effects of major environmental contaminants
7. List agents and describe methods for the prevention of exposure to diseases, toxic metals, pesticides, and radiation
8. Describe how environmental pollutants are regulated and prevented
3.4 **MAJOR CONCEPTS, PROCESSES or TOOLS:**

Identify the course content and themes (e.g. Table of Contents) consistent with the learning domains and outcomes.

*This course is a foundational introduction to the Environmental Health curriculum and upon completion, students are expected demonstrate in-depth knowledge of major environmental risk factors and their associated adverse human health outcomes (i.e., disease) and environmental impacts (i.e., ecological impacts). The following areas will be emphasized*

**Introduction to the Field of Environmental Health:**
- Environmental risks, epidemiology, toxicology, and policy and regulation.

**Agents of Environmental Disease:**
- Zoonotic and vector-borne diseases, toxic metals and elements, pesticides and other organic chemicals, ionizing and nonionizing radiation.

**Applications of Environmental Health:**
- Water quality, air quality, food safety, solid and liquid wastes, occupational health, and injuries.

**TEXTBOOK**

**WEEKLY SCHEDULE**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Introduction: The Environment at Risk</th>
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<tbody>
<tr>
<td>Week 2</td>
<td>Environmental Epidemiology</td>
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<tr>
<td>Week 3</td>
<td>Environmental Toxicology</td>
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<td>Week 4</td>
<td>Environmental Policy and Regulation</td>
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<tr>
<td>Week 5</td>
<td>Zoonotic and Vector-Borne Diseases</td>
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<td>Week 6</td>
<td>Toxic Metals and Elements</td>
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<td>Week 7</td>
<td>Pesticides and Other Organic Chemicals</td>
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<td>Week 8</td>
<td>Ionizing and Nonionizing Radiation</td>
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<td>Week 9</td>
<td>Water Quality</td>
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<td>Week 10</td>
<td>Air Quality</td>
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<td>Week 11</td>
<td>Food Safety</td>
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<td>Week 12</td>
<td>Solid and Liquid Wastes</td>
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<td>Week 13</td>
<td>Occupational Health</td>
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<tr>
<td>Week 14</td>
<td>Student Presentations</td>
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<tr>
<td>Week 15</td>
<td>Student Presentations</td>
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3.5 INSTRUCTIONAL METHODS:

Identify the methods used to meet the course outcomes, as well as the principal instructional methods.

*Course will be delivered using a combination of lectures by instructor as well as seminars by guest speakers. The course will be encouraging student discussion and engagement. Printed material from existing library resources and the web will be used to highlight and lead discussion on current environmental health topics. Student knowledge will be assessed through short weekly quizzes covering information discussed the prior week. Students will also form discussion groups and at the end of the semester present to the class their understanding of major issues in environmental health.*

3.6 CATALOG DESCRIPTION

Provide the course description using the precise format to be included in the ESF catalog (i.e. course number and title; format; brief description; semester(s) offered; and pre-/co-requisites). Please do not exceed 1000 characters.

*EHS 250 Foundations of Environmental Health (2)*

*One hour of lecture/discussion per week. Introduction to environmental health concepts. Course will introduce students to environmental risk, epidemiology, toxicology, policy, and regulation; agents of disease and human health risks including vector-borne pathogens, toxic metals, pesticides, and radiation. Course will also cover applications of environmental health with a focus on water and air quality, food safety, waste management and occupational health. Fall.*

3.7 COURSE HISTORY:

Provide the dates of prior approval of this course, or its revision history.

*Approved Spring 2015*
4. Institutional Impacts:

This section pertains to forecasting institutional resource needs to support the course or course revision. Provide clear statements regarding the needs and current availability (or absence) of resources. Assess budget impacts, including imposing course fees. Note that, if this is a course revision, only the impacts of the revision should be included.

Staffing needs: One faculty member (search in progress)

Classroom resources (e.g. physical facilities in a laboratory, lecture hall, flexible space, academic computing): One classroom for lectures and student presentations. Classroom needs are whiteboard, digital projector and internet access.

Technology Resources: N/A

Computing Resources (software licensing, hardware, access): N/A

Library Resources (subscriptions, services): Existing library materials and subscriptions will be sufficient for this course.

Transportation Requirements (budget, fees, fleet vehicles): N/A

Forest Properties or Field Practicum Facilities: N/A
5. Health and Safety Considerations:

Will any of the conditions or situations outlined below be present in association with the course? If this is a course revision, please only identify the health and safety considerations that result from the effects of the revision.

Yes / No

5.1. Will substances with any of the following properties be used during instruction: flammability, toxicity, corrosivity, reactivity, registered pesticide, legally controlled, or other characteristics with the potential to cause harm or injury?

5.2. Will any physical hazards be present during instruction? (e.g., machines that need safety guards; razor blades or syringes; compressed gases, etc.).

5.3. Will any biological hazards be present during instruction? (e.g., handling animals (rabies or hantavirus); cultures or stocks of infectious agents (fungal spores, viruses, bacteria, etc.).

5.4. Will any radiation hazards be present during instruction? (e.g., radioisotopes, X-rays, ultraviolet rays, lasers, etc.).

5.5. Will any electrical equipment that, due to its design, location, or method of use, pose any threat to safety during instruction? (Give considerable thought to electrical use outdoors, or any potentially wet location.).

5.6. Will there be any personal safety issues related to the class? (e.g., due to time of day or location, at the end of any organized class exercise, will students be in danger of physical assault, etc.).

5.7. Will any students be driving official state or research sponsored land or water vehicles during any class or instructional exercise?

5.8. Will any type of personal protective equipment be necessary during class exercises? (e.g., hard-hats, eye/face protection, hearing protection, hand/foot protection, lab coat, visibility clothing, etc.)

If the answer was “Yes” to any of the HEALTH AND SAFETY questions, please explain:

For lab and field courses to which all answers are “no”, you should explain that here, also. Normally, we would expect some safety precautions for such courses.
6. Coordination and Consultation

Signatures below, or attached letters, indicate that the affected departments, programs or units have been notified of this proposal and have had an opportunity to assess the impact of the proposal on their respective units.

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

Department/Program 1

Name of Chair/Program Director

Chair Signature

Date

Or letter attached □

Department/Program 2

Name of Chair/Program Director

Chair Signature

Date

Or letter attached □

Department/Program 3

Name of Chair/Program Director

Chair Signature

Date

Or letter attached □

[if more than three Departments/Programs, please continue on a separate page]

Other Units:

Associate Provost for Instruction & Dean of the Graduate School (for Gen Ed courses only)

Date

Or letter attached □

Registrar

Date

Or letter attached □

Library Director

Date

Or letter attached □

Computing and Network Services

Date

Or letter attached □

Physical Plant

Date

Or letter attached □

Forest Properties

Date

Or letter attached □

Environmental Health and Safety

Date

Or letter attached □
7. Proposer Information and Department Chair Affirmation:

Contact Person:
Name: Lee Newman
Department: ENS
Email: lanewman@esf.edu
Phone: 470-4937

This proposal has been reviewed and approved by the sponsoring Department. Affected departments have been notified and given the opportunity to provide feedback. Department resources are or will be made available to support the course, or a plan is in place to meet the resource needs as identified in the Institutional Impacts section of this proposal (see Section 4, above).

Name: ___________________________ Date: ______
Department Chair (or designated curriculum representative)

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

8. Approvals:

_________________________ ___________________________
Curriculum Committee Date

_________________________ ___________________________
Faculty Governance Date

_________________________ ___________________________
Provost Date