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: 8 February 2019

1. Course Information:

1.1 Course Prefix and Number: BPE 306
Course Title: Professional Synthesis
(If a new or renumbered course, please check with the Registrar regarding the use or reuse of the course number)

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.

BPE 306 is the course taken by students in the Bioprocess Engineering upon completing their internship (BPE 304) and/or co-op (BPE 305) experience. The course represents the academic report and presentation of their experience.

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.

Prerequisites: BPE 304 or BPE 305

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

N/A

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.

N/A

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?

The course will require an instructor. It will be taught by existing instructors.

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

N/A

2.7 Anticipated Enrollment (enter where applicable)

Fall Semester: 15 Spring Semester: 10
Summer Semester:

2.8 Anticipated frequency of class meetings. 2 hours of seminars per week plus presentation to Freshman class or other appropriate venue.
3. DETAILED COURSE DESCRIPTION

3.1 COURSE IDENTIFICATION AND FORMAT:

3.1.1 Course Prefix and Number: BPE 306
3.1.2 Course Name: Professional Synthesis
3.1.3 Credit Hours: 1
3.1.4 Semester (check all that apply): Fall ☑ Spring ☑ Summer ☐
3.1.5 Format (check as appropriate): Lecture ☑ Online ☐ Lab ☐ Field ☐

Other ☑ (explain) 2 hours of seminars per week plus presentation to Freshman class or other appropriate venue.

3.1.6 Contact hours per week: N/A
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

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:

b. Is this an elective course within your department? No ☐ Yes ☑.

c. Is enrollment in this course restricted? No ☐ Yes ☑.
   If Yes, please explain: Students must have completed an internship or co-op.

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? PSE 306

3.3 STUDENT LEARNING OUTCOMES:

Identify the student learning outcomes associated with this course.

After completing this course the student should be able to:

1. List examples of how they applied academic knowledge to their internship/co-op experience and define appropriate methods of employing such information in a professional setting;

2. Explain the professional organizations, processes, systems, and equipment utilized within the employing company;
3. Define engineering competencies relevant to their professional setting and explain examples of how they demonstrated such competencies during their internship/co-op experience (with additional support from a Supervisor Evaluation to document the demonstration of your competencies);

4. Describe the role and responsibilities of the engineer in an industrial setting related to their internship/co-op experience and their employing company;

5. Create a written report that effectively communicates the internship/co-op experience.

6. Create and present an oral presentation that effectively communicates the internship/co-op experience to an appropriate audience.

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.

As a requirement for the professional experiences, students who enroll in the Bioprocess Engineering at SUNY-ESF can partake one onsite work experience with a company in their field prior to graduating from the program. This can be in the form of an internship or co-op experience. The students will prepare a written report and oral presentation of their previous work experience.

3.5 **INSTRUCTIONAL METHODS:**

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

The Written Report is a manifestation of the internship/co-op experience in written form. It covers multiple topics, including company information, the logistics of the internship/co-op (e.g., daily tasks, special projects, etc.), and a reflection of the student's experience with the company. The Oral Presentation is a short, condensed, Powerpoint version of the internship/co-op Written Report. It is delivered to a group of students pursuing an internship in the future, as well as the professor of this course, to learn about the student's experience with the company.

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.

Students will develop a synthesis of their work experience from either BPE 304 or BPE 305 and present their results both orally and in a written report. Fall or Spring.

3.7 **COURSE HISTORY:**

Provide the dates of prior approval of this course, and its revision history.
This course was offered as ERE 496 (Coop experience) for several years. It was formalized as a regular course on 12/2/99. Last approved: Revised Draft: November 22, 2009 (form in protected format: 1/15/10). Course revised on 4/1/2019

3.7.1 Relationship to current ESF courses

This course is replacing a current ESF course  ☐ YES ☒ NO

If NO, then proceed to section 4 below.

If YES, then provide below the number and name of the course to be deactivated and removed from the catalog once this course proposal has been approved:

Course Number (of the course to be replaced)
Course Name (of the course to be replaced)

If the course to be replaced is used by departments other than the department sponsoring this proposal, please indicate below which departments are affected and the date they were notified about the course replacement.

Department:  Date of Notification:
Department:  Date of Notification:
Department:  Date of Notification:
Department:  Date of Notification:
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. Note that, if this is a course revision, only the impacts of the revision should be included.

<table>
<thead>
<tr>
<th>Staffing needs:</th>
<th>1 Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom resources (e.g. physical facilities in a laboratory, lecture hall, flexible space, academic computing):</td>
<td>N/A</td>
</tr>
<tr>
<td>Technology Resources:</td>
<td>N/A</td>
</tr>
<tr>
<td>Computing Resources (software licensing, hardware, access):</td>
<td>Word, Excel, Powerpoint, Matlab with Simulink</td>
</tr>
<tr>
<td>Library Resources (subscriptions, services):</td>
<td>Paperchem and Paperbase databases, current library collection</td>
</tr>
<tr>
<td>Transportation Requirements (budget, fees, fleet vehicles) :</td>
<td>N/A</td>
</tr>
<tr>
<td>Forest Properties or Field Practicum Facilities:</td>
<td>N/A</td>
</tr>
</tbody>
</table>
5. Health and Safety Considerations:

Will any of the conditions or situations outlined below be present in association with the course?  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. N/A
6. Coordination and Consultation

Emails/letters, as noted below and attached to this proposal, or signatures below, 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) – other than the sponsoring department:

Department/Program 1

Name of Chair/Program Director

[Signature] Or letter attached □

Date

Department/Program 2

Name of Chair/Program Director

[Signature] Or letter attached □

Date

Department/Program 3

Name of Chair/Program Director

[Signature] Or letter attached □

Date

[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)

[Signature] Or letter attached □

Date

Registrar

[Signature] Or letter attached □

Date

Library Director

[Signature] Or letter attached □

Date

Computing and Network Services

[Signature] Or letter attached □

Date

Physical Plant

[Signature] Or letter attached □

Date

Forest Properties

[Signature] Or letter attached □

Date

Environmental Health and Safety

[Signature] Or letter attached □

Date
7. Proposer Information and Sponsoring Department Chair Affirmation:

Contact Person:

Name: Gary M Scott
Department: PBE
Email: gscott@esf.edu
Phone: x6523

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:

___________________________________________ Date
Curriculum Committee

___________________________________________ Date
Faculty Governance

___________________________________________ Date
Provost