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

1. Course Information:

1.1 Course Prefix and Number: BPE 305
Course Title: Professional Co-op
(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 305 is the course taken by students in the Bioprocess Engineering programs when working a co-op during either the Fall or Spring semester. As the student is engaged in college-related work experience, they are still considered full-time students by registering for this course.

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.

None

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.

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: 8  Spring Semester: 8
Summer Semester:

2.8 Anticipated frequency of class meetings. N/A
3. DETAILED COURSE DESCRIPTION

3.1 COURSE IDENTIFICATION AND FORMAT:

3.1.1 Course Prefix and Number: BPE 305
3.1.2 Course Name: Professional Co-op
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) Co-op
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 ☑
      If Yes, please explain: Students must have a co-op position to take this course.
   c. Is enrollment in this course restricted? No ☐ Yes ☑
      If Yes, please explain: Students must have a co-op position to take this course.
   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.

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. Describe the professional organizations, processes, systems, and equipment utilized within the employing company;

3. Define engineering competencies relevant to their professional setting and describe 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. Provide a critical evaluation of the internship experience in terms of their own performance, their preparedness for the experience, and their professional growth as an engineer.

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.

Students work for the semester as interns in industrial positions. Job opportunities are made available by industrial cooperators through on-campus interviews, job fairs, conference interviews, web posting, and other job search methods. Companies typically interview for their positions and make offers to students. Students are required to have a confirmed position to enroll in this course.

Upon completion of this work experience, the student's immediate supervisor submits a written performance evaluation that addresses various aspects of the student's technical preparation and professional work habits. The student is required to submit a report resulting from the project. The requirements of the report to be prepared by each student are provided in writing to the student prior to the work experience.

3.5 INSTRUCTIONAL METHODS:

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

Students are provided guidelines on the internship/co-op experience and expectations. Evaluations are done by the students' supervisors as well as a self-evaluation done by the student. A graded report is done as part of a followup course (BPE 306).

Grading is done on an S/U basis.

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.

A semester of full-time employment approved by the department with an industrial or research partner acquired through on-campus interviews or other means. The student and the supervisor set goals and expectations for the co-op. The students and supervisors also provide feedback on the performance of the student. 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.

**Staffing needs:**
1 Instructor

**Classroom resources (e.g. physical facilities in a laboratory, lecture hall, flexible space, academic computing):**
N/A

**Technology Resources:**
N/A

**Computing Resources (software licensing, hardware, access):**
Word, Excel, Powerpoint, Matlab with Simulink

**Library Resources (subscriptions, services):**
Paperchem and Paperbase databases, current library collection

**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?  

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>Will any physical hazards be present during instruction? (e.g., machines that need safety guards; razor blades or syringes; compressed gases, etc.).</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>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.).</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>Will any radiation hazards be present during instruction? (e.g., radioisotopes, X-rays, ultraviolet rays, lasers, etc.).</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>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.).</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>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.).</td>
<td>☒ / ☐</td>
</tr>
<tr>
<td>Will any students be driving official state or research sponsored land or water vehicles during any class or instructional exercise?</td>
<td>☐ / ☒</td>
</tr>
<tr>
<td>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.)</td>
<td>☒ / ☐</td>
</tr>
</tbody>
</table>

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

Students will be working at mill and company locations that may present physical hazards. Students are required to comply with all safety regulations of the company and use all necessary safety equipment when required or when necessary for personal protection.

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:**

<table>
<thead>
<tr>
<th>Department/Program</th>
<th>Name of Chair/Program Director</th>
<th>Chair Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
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</tbody>
</table>

*If more than three Departments/Programs, please continue on a separate page*

**Other Units:**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Or letter attached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Provost for Instruction &amp; Dean of the Graduate School (for Gen Ed courses only)</td>
<td></td>
</tr>
<tr>
<td>Registrar</td>
<td></td>
</tr>
<tr>
<td>Library Director</td>
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<tr>
<td>Computing and Network Services</td>
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<tr>
<td>Physical Plant</td>
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<td>Forest Properties</td>
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<tr>
<td>Environmental Health and Safety</td>
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</tbody>
</table>

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