Date: 06/13/2019
Department: Division of Environmental Science
Curriculum Title: B.S. in Environmental Science—Environmental Information and Mapping Option Area

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

☐ revised courses
☐ change in total cr. hrs.
☐ new course sequence
☐ new program objectives*
☒ new courses added
☐ new accreditation/assessment requirements

*See SUNY Guidelines

1. Rationale for Change

Please provide an explanatory narrative outlining the rationale for the change, and the impacts of this change on the learning outcomes of the curriculum:

The Environmental Information & Mapping Option Area offered within the B.S. in Environmental Science degree needs an additional course to round out the program and to provide exposure to digital methods and graphics. It is therefore proposed that two additional courses, LSA 300 Digital Methods and Graphics, or EFB 518 Systems Ecology: Ecology Modeling and Design, will be required to satisfy the option area. Students will select one of the two as their final course.

Either course will give students experience in landscape representation, a skill that ties together other coursework in surveying, remote sensing, GIS, and cartography. Through use of relevant software programs and/or computer simulations, students will have an opportunity to use creative and technical skills to visualize environmental solutions, which will add to the efficacy of a program focused on utilization and management of spatial data.

2. Institutional Impact:

Changes from existing condition:

Anticipated Enrollment or Enrollment Change: 2-3 additional students enrolled in each course

Faculty or Staffing Requirements: No additional faculty requirements

Technology, Computing Resources, and Classroom Resource Demands: No additional resource demands

Change in Accreditation Requirements: None

Change to Assessment Plan: None
Library Resource Requirements: None

3. Catalog Narrative:

Please attach to this proposal form a copy of the current catalog description in MS Word format, with revisions shown in “track changes”.

**LSA 300 Digital Methods and Graphics I (3)**
Three hours of lecture per week. Through active participation, students learn to produce 2D digital graphics and documents (posters, reports, presentations and e-docs). Content includes image processing and vector drawing; document assembly for print, viewing and electronic distribution; and general concepts of digital workflow management. Credit will not be given for both LSA 300 and LSA 500. Fall. Prerequisite: Undergraduate standing in Landscape Architecture, Natural History and Interpretation or permission.

**EFB 518 Systems Ecology: Ecology Modeling and Design (3)**
Three hours of lecture per week. Survey of systems ecology literature and techniques for ecological modeling and design. Students will develop computer simulations of natural and human systems. They will explore how ecological modeling can contribute to disciplines such as landscape architecture, ecological engineering and ecosystem restoration. Spring Prerequisite: one course in ecology Prerequisite: One course in ecology.

**Track Changes**

**Catalog Changes**

**Environmental Information and Mapping** (14 credits required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERE 365</td>
<td>Principles of Remote Sensing (4)</td>
</tr>
<tr>
<td>ERE 371</td>
<td>Surveying for Engineers (3)</td>
</tr>
<tr>
<td>FOR 458</td>
<td>Advanced Topics in GIS (3)</td>
</tr>
<tr>
<td>GEO 381</td>
<td>Cartographic Design (4)</td>
</tr>
</tbody>
</table>

**Environmental Information and Mapping** (16 Credits Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERE 365</td>
<td>Principles of Remote Sensing (4)</td>
</tr>
<tr>
<td>ERE 371</td>
<td>Surveying for Engineers (3)</td>
</tr>
<tr>
<td>FOR 458</td>
<td>Advanced Topics in GIS (3)</td>
</tr>
<tr>
<td>GEO 381</td>
<td>Cartographic Design (3)</td>
</tr>
</tbody>
</table>

**NOTE: Latest offering of GEO 381 worth 3 credits**

| LSA 300  | Digital Methods and Graphics (3)          |
| OR       |                                            |
| EFB 518  | Systems Ecology: Ecology Modeling and Design (3) |
Plan Sheet Changes

Option Area Courses (a list of courses fulfilling these requirements can be found in the Environmental Science Advising Manual and online at http://www.esf.edu/catalog/environmentalscience.asp). The intent is at least 5 courses for a minimum of 15 credit hours.

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
<th>EARNED COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective Course I</td>
<td>4 ERE365</td>
</tr>
<tr>
<td>Elective Course II</td>
<td>3 ERE371</td>
</tr>
<tr>
<td>Elective Course III</td>
<td>3 FOR458</td>
</tr>
<tr>
<td>Elective Course IV</td>
<td>3 GEO381</td>
</tr>
<tr>
<td>Elective Course V</td>
<td>3 LSA300/EFB518</td>
</tr>
</tbody>
</table>

Option Area Courses (a list of courses fulfilling these requirements can be found in the Environmental Science Advising Manual and online at http://www.esf.edu/catalog/environmentalscience.asp). The intent is at least 5 courses for a minimum of 15 credit hours.

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
<th>EARNED COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective Course I</td>
<td>4 ERE365</td>
</tr>
<tr>
<td>Elective Course II</td>
<td>3 ERE371</td>
</tr>
<tr>
<td>Elective Course III</td>
<td>3 FOR458</td>
</tr>
<tr>
<td>Elective Course IV</td>
<td>3 GEO381</td>
</tr>
<tr>
<td>Elective Course V</td>
<td>3 LSA300/EFB518</td>
</tr>
</tbody>
</table>

### 4. Curriculum Transition Plan:

Please provide a narrative description of your plan for transitioning from your existing curriculum to the proposed new curriculum. Please provide specific dates for implementing curriculum changes, overlap periods where old and new curricula may exist simultaneously, and final phase out of old curricula. Please also include impacts and mitigating considerations for transfer students and students in mid-program during implementation, impacts of changes in semester delivery of existing courses, addition of new courses within a particular semester, etc.

Students currently enrolled in the Environmental Information and Mapping option area will be instructed to register for LSA 300/EFB 518 during advising meetings, and a choice of one of the courses will be required for Environmental Information and Mapping students effective Fall 2020. As the courses are not replacing an existing requirement in the option area, LSA 300/EFB 518 will serve as the fifth and final course needed to complete the specialization.
LSA 300 will not impact the semester delivery of existing courses, as the typical class time does not conflict with any option area courses offered during the fall semester, and it can be taken in conjunction with other fall semester requirements. EFB 518 will not impact the semester delivery of existing courses, as the typical class time does not conflict with any option area courses offered during the spring semester, and it can be taken in conjunction with other spring semester requirements.

5. Approval Signatures:

Signatures below, or attached letters, indicate that the affected departments, programs or units have been notified of this proposal and have had an opportunity to assess the impact of the proposal on their respective units. If departments did not respond to your notification, you may wish to document your effort to contact them.

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

Department of Landscape Architecture
Doug Johnston
Name of Chair/Program Director

Chair Signature
Date
Or letter attached

EFB
Melissa Fierke
Name of Chair/Program Director

Chair Signature
Date
Or letter attached

Department/Program 3
Name of Chair/Program Director

Chair Signature
Date
Or letter attached

[If more/less than three Departments/Programs, please add/delete lines as appropriate.]

Other Units

Library Director
Date
Or letter attached

Computing and Network Services
Date
Or letter attached

Physical Plant
Date
Or letter attached
Office of the Provost

Signature below, or attached letter, indicates that the Provost either a) agrees that there is no need for additional resources from the College; or b) indicates willingness to provide the extra support to the department.

____________________________________________________  ____________________________  Or letter attached □
Provost Signature  Date
6. Proposer Information and Department Chair Affirmation:

Contact Person:

Name: Monica Blaisdell _______________________________ Department: Division of Environmental Science

Email: mblaisde@esf.edu ___________________________ Phone: x3029 ______________________

This proposal has been reviewed and approved by the sponsoring Department. Affected departments have been notified and given the opportunity to provide feedback. Department resources are or will be made available to support this curriculum revision, or a plan is in place to meet the resource needs as identified in the Institutional Impacts section of this proposal (see Section 2, above).

Name: Russell Briggs ____________________________________ Date: 9/17/19 __________

__________________________________________ Department Chair (or designated curriculum representative)

Signature: ____________________________________________ Or letter attached □

__________________________________________ Department Chair (or designated curriculum representative)
7. Final Approvals:

__________________________________________________  ____________ ______
Curriculum Committee                                  Date

__________________________________________________  ____________ ______
Faculty Governance                                     Date

__________________________________________________  ____________ ______
Provost                                                Date