Curriculum Proposal Form- New Minor

Academic Affairs Committee - ESF Academic Governance

Office of Academic Administration

**Date: 2024.12.30**

**Department: Division of Engineering**

**Minor Title: Civil Engineering Technology Minor**

**1. Justification Narrative**

Please provide an explanatory narrative outlining the need or rationale for the new Minor (i.e. addressing emerging or changing societal demand, addressing changing technology, focusing on a new interdisciplinary body of knowledge, etc.)

Over the past several years, many engineering colleges at peer universities (e.g., Syracuse University, Cornell University) now offer minors in various engineering fields. This allows students to broaden their engineering education without the necessity of the efforts of a double major. However, at ESF, students only have limited opportunities to extend their engineering education through the use of minors. This minor (among the others proposed) will allow students to broaden their engineering knowledge which will open up additional career opportunities for the students.

This minor is based on the similarly named minor at Syracuse University, using ESF courses where appropriate.

This minor (and the other proposed minors) has been discussed extensively and reviewed by the chairs of the Environmental Resources Engineering and Chemical Engineering Departments and have been submitted to them for endorsement.

In addition, the proposed engineering minors have been reviewed and encouraged by the Syracuse Pulp and Paper Foundation Curriculum Committee and Board of Directors. This organization serves as the Advisory Board for the Paper Engineering program. They have expressed support for the minors and further indicated that, in their opinion, would greatly enhance the career opportunities for students majoring in engineering (and particularly Paper Engineering). After approval, they would consider developing a scholarship program for students engaging in the minor, especially to offset the students’ accessory instruction costs.

**2. Institutional Impact:**

Anticipated Enrollment: 5

New Faculty or Staffing Requirements: None

New Technology and Classroom Resource Demands: None

New Computing Resources Requirements: None

New Accreditation Requirements: None

New Assessment Requirements: None

New Library Resource Requirements: None

New Transportation Requirements: None

New Forest Properties or Field Practicum Requirements: None

Impacts on other Departments at ESF:

Sustainable Resource Management and Environmental Resources Engineering:

The requirements for this minor are primarily in SRM and ERE. A small increase in enrollment in the required courses could be expected with smaller increases in the elective courses.

(please obtain and attach response from affected departments)

Impacts on Admissions: (particularly transfer requirements and articulation agreements; please

obtain and attach response from Admissions): None

List courses taught outside the Department at ESF: See catalog description for list of courses.

List courses taught outside the Department at SU: See catalog narrative for list of courses

• Accessory Instruction credit hours at SU required per student in this curriculum: None required

• Accessory Instruction credit hours required per semester by this curriculum: None required

• Change in Accessory Instruction needs over current programs and curricula: N/A

**3. Catalog Narrative:**

Please provide a narrative description of the Minor, the broad objectives and learning outcomes, and a course outline using the precise format proposed for the ESF catalog (please include the minimum GPA required to be admitted to the minor – College-wide this minimum is 2.7; departments/minors may require a higher minimum GPA if desired):

**ESF Civil Engineering Technology Minor**

The civil engineering technology minor is designed to give students the opportunity to learn and apply basic engineering knowledge to solve problems related to the analysis, design and construction of civil infrastructure. Students enrolled in this program have the option to focus on one specific discipline or explore several areas of civil engineering. The minor is available to all ESF undergraduate students who maintain a minimum cumulative grade point average of 2.70.

Core Courses (6 Credits):

GNE 271 - Statics (3cr)

GNE 273 - Mechanics of Materials (3cr)

Focus Areas (6 Credits) (Choose two courses selected from any one of the following three focus areas):

Construction and Infrastructure Engineering

CME 255 – Plan Interpretation and Quantity Takeoff (3cr)

CME 343 – Construction Estimating (3cr)

CME 405 – Bldg Info Modeling/Construction Management (3cr)

Any 300 level and above CEE courses on construction engineering and management (3 Credits)

Geotechnical Engineering

CME 327 – Site Investigations and Solutions (3cr)

CME 404 – Applied Structures (3cr)

Structural Engineering

CME 306 – Engineering Materials and Sustainable Construction (3cr)

CME 404 – Applied Structures (3cr)

Two Additional 300 Level and Above (6 - 7 Credits)

CME 305 Sustainable Energy Sys/Bldgs (3)

CME 327 Site Investigatns & Solutions (3)

CME 331 Construction Safety (3)

CME 342 Light Construction (3)

CME 343 Construction Estimating (3)

RMS 387 Renewable Mat/Sustainable Cons (3)

CME 404 Applied Structures (3)

CME 405 Bldg Info Modelng/Cons Mgt (3)

RMS 422 Composite Mat/Sustainable Cons (3)

CME 455 Construct Contracts/Specs (3)

CEE Courses 300 Level and Above

**4. Program Outcomes**

Please provide a specific listing of the learning outcomes associated with this Minor:

Upon completion of this minor, students will be able to:

1. Describe the basic concepts of civil engineering technology.
2. Integrate the concepts of civil engineering technology into their chosen major program.

**5. Implementation Plan**

Please provide a specific date for implementing this new Minor.

The minor will be available to students beginning with the Fall 2025 semester.

**6. 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):**

Chemical Engineering\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Department/Program 1 Name of Chair/Program Director

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Or letter attached [ ]

Chair Signature Date

Environmental Resources Engineering\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Department/Program 2 Name of Chair/Program Director

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Or letter attached [ ]

Chair Signature Date

Sustainable Resources Engineering\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Department/Program 3 Name of Chair/Program Director

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_      \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Or letter attached [ ]

Chair Signature Date

*[if more/ess than three Departments/Programs, please add/delete lines as appropriate.*

**Other Units**

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Library Director Date

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Computing and Network Services Date

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Physical Plant Date

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Forest Properties Date

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Environmental Health and Safety Date

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Admissions Date

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Other\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date

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Otjer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date

**Office of the Provost**

Signature below, or attached letter, indicates that the Provost either a) agrees that 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

**7. Proposer Information and Department Chair Affirmation:**

Contact Person:

Name:Gary M Scott\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Department: Division of Engineering \_\_\_\_\_\_\_\_

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 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:Gary M Scott (Director, Division of Engineering) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:2024.12.30\_\_\_\_\_

Department Chair (or designated curriculum representative)

Signature:\_\_\_\_\_\_\_\_\_(s) Gary M Scott\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Or email attached [ ]

Department Chair (or designated curriculum representative)