



ESF Minor Curriculum Change Proposal Form

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

Date: 2023.12.18
Department: Division of Engineering
Curriculum Title: Mathematics Minor

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

- | | |
|---|--|
| <input checked="" type="checkbox"/> revised courses | <input type="checkbox"/> change in total cr. hrs. |
| <input type="checkbox"/> new course sequence | <input type="checkbox"/> new program objectives* |
| <input checked="" type="checkbox"/> new courses added | <input type="checkbox"/> 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 course list has been updated to reflect changes in the course offerings at ESF and SU. Elective list expanded to reflect new courses being offered.

2. Institutional Impact:

Changes from existing condition:

Anticipated Enrollment or Enrollment Change: 5

Faculty or Staffing Requirements: no additional requirements.

Technology, Computing Resources, and Classroom Resource Demands: no additional requirements

Change in Accreditation Requirements: N/A

Changes to Assessment Plan: none

Library Resource Requirements: no additional requirements

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".

Current Catalog Description

Coordinator: Dr. Gary Scott

The mathematics minor is available to all ESF undergraduates who have an interest in developing greater knowledge in the field of mathematics. To be eligible for this minor, a student must have a cumulative grade point average of 2.700 or better by the end of the sophomore year. Interested students must submit a petition form, with courses listed and plan sheet, to their academic advisor and undergraduate coordinator, with final approval from the Dean of Instruction and Graduate Studies. Sixteen credit hours (5 courses) in mathematics courses are required to complete the minor. Admission to the mathematics minor requires students to have completed Calculus I and Calculus II.

Required Courses: (7 credits)

APM 307 Calculus III for Scientists and Engineering (4)

Choice of:

APM 485 Differential Equations for Engineers and Scientists (3)

MAT 331 First Course in Linear Algebra (3)

Elective Courses (9 credits)

Course Number Course Codes *Credits

ERE 465 Environmental Systems Engrng 3

APM 395 Probability & Stats/Engr 3

APM 485 Diff Equat/Engr&Scientist 3

APM 585 Part Diff Equat/Engrs&Scientst 3

APM 635 Multivariate Stat Method 3

APM 645 Nonparamet Stats&Cat Data Anal 3

MAT 4XX Any MAT course numbered 400 above

New Catalog Description

Coordinator: Dr. Gary Scott

The mathematics minor is available to all ESF undergraduates who have an interest in developing greater knowledge in the field of mathematics. To be eligible for this minor, a student must have a cumulative grade point average of 2.700 or better by the end of the sophomore year. Interested students must submit a petition form, with courses listed and plan sheet, to their academic advisor and undergraduate coordinator, with final approval from the Dean of Instruction and Graduate Studies.

Twenty one credit hours (6 courses) in mathematics courses are required to complete the minor. Admission to the mathematics minor requires students to have completed Calculus I and Calculus II.

Required Courses: (15 credits)

- APM 205: Calculus for Science and Engineering (4)
- APM 206: Calculus for Science and Engineering II (4)
- APM 307: Multivariable Calculus (4)
- Choice of:
 - APM 485: Differential Equations for Engineers and Scientists (3)
 - MAT 331: First Course in Linear Algebra (3)

Elective Courses: (6 credits)

- ERE 465: Environmental Systems Engineering (3)
- ERE 533 Ecological Modeling (3)
- APM 391 Introduction to Probability and Statistics (3)
- APM 395 Probability and Statistics for Engineers (3)
- APM 485 Differential Equations for Engineers and Scientists (3)
- APM 510 Statistical Analysis (3)
- APM 585 Partial Differential Equations for Engineers and Scientists (3)
- APM 595 Probability and Statistics for Engineers (3)
- APM 620 Experimental Design and ANOVA (3)
- APM 625 Sampling Methods (3)
- APM 630 Regression Analysis (3)
- APM 635 Multivariate Statistical Methods (3)
- APM 645 Nonparametric Statistics and Categorical Data Analysis (3)
- APM 730 Adv Regression Modeling Methods (3)
- MAT 3xx/4xx/MAT 5xx Any MAT course numbered 300 or above (3)

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 will be able to complete either the new curriculum or the one in their catalog of record.

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):

Division of Engineering
Department/Program 1

Chair Signature



Gary M Scott
Name of Chair/Program Director

2023.12.19
Date

Or letter attached ☐

Environmental and Resource Engineering
Department/Program 1



Lindi Quackenbush
Name of Chair/Program Director

Or letter attached ☐

Chemical Engineering
Department/Program 1



Bandaru Ramarao
Name of Chair/Program Director

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 ☐

Forest Properties _____ Date _____ Or letter attached ☐

Environmental Health and Safety _____ Date _____ Or letter attached ☐

Admissions _____ Date _____ Or letter attached ☐

Other _____ Date _____ Or letter attached ☐

Other _____ 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.

Provost Signature _____ Date _____ Or letter attached ☐

6. 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: 2023.12.19
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