



ESF Minor Curriculum Change Proposal Form

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

Date: November 29, 2022
Department: SRM
Curriculum Title: Sustainable Energy Management

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:

Minor changes to

- (1) accommodate new SUNY General Education Framework by adding new DEISJ requirement,
- (2) change biology requirement by replacing EFB 101/102 Biology I with lab with EFB 100 Survey of Biology, and
- (3) change physics requirement by replacing SRE 225 Physics of Energy with FOR 110 Environmental Physics

Current Curriculum				Proposed change		
FOUNDATION COURSES (with suggested ESF classes)				SUNY GER	Credits	Credits
English I	EWP190 Writing & the Environment	Basic Comm.	3			
English II	EWP290 Research, Writing & Humanities	Humanities	3			
Biology I (w/lab)	EFB101/102 General Biology I	Natural Science	4		Change to EFB 100 Survey of Biology	
Chemistry I (w/lab)	FCH110/111 Survey of Chemical Principles	Natural Science	4			
Physics	SRE225 Physics of Energy	Natural Science	3	3	Change to FOR XXX Environmental Physics	
Math	APM103 Appl. Alg. & Trig.	Math	3			
Statistics	APM391 Intro. to Probability & Statistics	Math	3			
Economics	FOR207 Intro. to Economics	Social Science	3			
Public speaking	EWP220 Public Presentation Skills.	--	3			
Info. Literacy	ESF200 Information Literacy	--	1			
Prin. of Management	FOR360 Principles Manage. for Env. Prof.	--	3			
General Education		DEISJ		3	Add Gen Ed DEISJ course, add 3 credits	
General Education	Select from two (2) of five (5) subject areas	varies	6	3	Change to "Select from one (1) of four (4) subject areas", reduce to 3 credits	
			Minimum Credit Hours	39	39	
FRM PROFESSIONAL COURSES			Credits			
CME305 Sustainable Energy Systems for Buildings			3			
ESF300 Introduction to Geospatial Information Technologies			3			
FOR132 Freshman orientation seminar			1			
FOR205 Principals of Accounting			3			
FOR333 Managerial Economics for Environmental Professionals			3			
FOR411 Analytical & Technical Writing for Resources Managers			3			
FOR485 Business Law			3			
SRE 150 Introduction to Sustainable Energy Management			1			
SRE325 Energy Systems			3			
SRE337 Energy Resources Assessment			3			
SRE416 Sustainable Energy Policy			3			
SRE422 Energy Markets and Regulation			3			
SRE441 Biomass Energy			3			
SRE450 Renewable Energy Management Capstone Planning			1			
SRE454 Renewable Energy Finance and Analysis			3			
SRE479 Life Cycle Assessment			3			
SRE491 Sustainable Energy Management Capstone			3			
Five (5) Upper Division Directed Electives			15			
			Minimum Credit Hours	60		
			Free Electives	21		
TOTAL REQUIRED FOR GRADUATION			120			

2. Institutional Impact:

Changes from existing condition:

Anticipated Enrollment or Enrollment Change: 0

Faculty or Staffing Requirements: 0

Technology, Computing Resources, and Classroom Resource Demands: None

Change in Accreditation Requirements: None

Changes 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".

[See next pages](#)

Bachelor of Science in Sustainable Energy Management

- www.esf.edu/fnrm/sem

The Sustainable Energy Management (SEM) program introduces students to a wide range of energy markets and resources (fossil fuels, electricity, renewable and sustainable energy resources) while maintaining substantial flexibility for student-centered learning in understanding and managing energy systems.

The Sustainable Energy Management program is based on a vision that combines professional competency in management skills with a strong foundation in the social and biophysical sciences. The study of responsible energy resources use, and the development of sustainable sources of energy, has become a critical national and global issue. Energy issues include concerns about the quality and quantity of the different potential resources, energy security, and potential impacts of each on the environment and human health. It is essential that our society and energy professionals gain an understanding of production and conversion of different forms of energy, their current and future supplies, the markets and policy mechanisms that regulate their supply, and the associated impacts on the environment for each fuel.

Students interested in this program typically have a strong interest in energy use and associated impacts on our natural resources and environments. This major exposes students to views from a variety of disciplines as they investigate issues related to current and future energy supply and use. Students likely have an interest in exploring sustainable uses of energy and resources and want to develop the professional knowledge and skills needed to conserve, and manage energy resources and the environment. ESF provides a variety of opportunities to meet students' needs through sustainable and renewable energy demonstration projects, research in energy topics, and ESF's adoption of energy efficient and renewable energy projects. Experiential field learning is combined with learning concepts and skills in the classroom and laboratory on ESF's Syracuse campus.

The SEM major requires a base of coursework in math and science, with additional work in applied economics, statistics, and applied energy courses. The major has a strong focus on developing management skills needed to work in the energy field. ESF has significant applied energy research and demonstration projects in place to provide students with valuable sources of experiential learning and data for analysis. In addition, the Central NY region has significant sustainable energy projects in place and underway as more assets for the development of experiential learning opportunities.

Lower Division Required Courses

Course		Codes*	Credits
APM 103	Applied College Algebra and Trigonometry	G	3
OR			
APM 104	College Algebra and Precalculus	G	3
APM 391	Introduction to Probability and Statistics	G	3
EFB 101	General Biology I: Organismal Biology and Ecology	G	3

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EFB 102	General Biology I Laboratory	G	4
EFB 100	Survey of Biology	G	4
ESF 200	Information Literacy		1
EWP 190	Writing and the Environment	G	3
EWP 220	Public Presentation Skills		3
EWP 290	Research Writing and Humanities	G	3
FCH 150 AND FCH 151 OR FCH 110 AND FCH 111	General Chemistry I General Chemistry Laboratory I Survey of Chemical Principles Survey of Chemical Principles Laboratory	G	3 1 3 1
FOR 132	Orientation Seminar: F&NRM		1
FOR 207	Introduction to Economics	G	3
FOR 360	Principles of Management		3
SRE 150	Introduction to Sustainable Energy Management		1
SRE 225 OR PHY 101	Physics of Energy Major Concepts of Physics I	G	3 4
FOR 110	Environmental Physics	G	3

Lower Division Elective Courses

Course	Codes*	Credits
ESF XXX	Diversity, Equity, Inclusion and Social Justice course (TBD)	G 3
General Education courses in <u>two-one</u> of the following categories: American History , Foreign Language , The Arts , Western Civilization , Other World Civilizations-US History and Civic Engagement , The Arts , World History and Global Awareness , World Languages		G 6.3

Upper Division Required Courses

Course	Codes*	Credits
CME 305	Sustainable Energy Systems for Buildings	3

ESF 300	Introduction to Geospatial Information Technologies		3
FOR 205	Principles of Accounting		3
FOR 333	Natural Resources Managerial Economics		3
FOR 485	Business and Managerial Law		3
SRE 325	Energy Systems		3
SRE 337	Energy Resource Assessment		4
SRE 416	Sustainable Energy Policy		3
SRE 422	Energy Markets and Regulation		3
SRE 441	Biomass Energy		3
SRE 450	Sustainable Energy Capstone Planning		1
SRE 454	Sustainable Energy Finance and Analysis		3
SRE 479	Life Cycle Assessment		3
SRE 491	Sustainable Energy Management Capstone	G	3

Upper Division Electives

Course	Codes*	Credits
Directed Elective Courses: Five courses from CME 215, CME 304, CME 306, CME 444, EFB 103/104, EFB 320, EEE 370, EST 220, EST 231, EST 202, EST 366, EST 390, EST 426, EST 427, EST 450, EST 550, FIN 301, FOR 338, FOR 370, FOR 465, FOR 487, FOR 489, MAR 301, MGT 247, PSC 302, PSY 205, SOC 101, RMS 422, SRE 335, SRE 419		15
Free Electives		18

Total Minimum Credits For Degree: 120

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.

All CM students entering the program in Fall 2023 will be required to satisfy the requirements of the new curriculum. Existing students have the option to remain in the curriculum that existed when they entered ESF, or switch to the new curriculum.

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/Program 1	Name of Chair/Program Director
_____	_____
Chair Signature	Date <input type="checkbox"/> Or letter attached
_____	_____
Department/Program 2	Name of Chair/Program Director
_____	_____
Chair Signature	Date <input type="checkbox"/> Or letter attached
_____	_____
Department/Program 3	Name of Chair/Program Director
_____	_____
Chair Signature	Date <input type="checkbox"/> Or letter attached

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

Other Units

_____	_____
Library Director	Date <input type="checkbox"/> 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: Eddie Bevilacqua Department: SRM

Email: ebevilacqua@esf.edu Phone: x6697

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: Chris Nowak Date: _____
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** _____

