

BACHELOR OF SCIENCE IN SUSTAINABLE ENERGY MANAGEMENT

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

APM 103	Applied Algebra & Trigonometry	3
OR		
APM 104	College Algebra & PreCalculus	3
OR		
APM 105	Survey Of Calc & Appl I	4
APM 391	Intro/Probability&Stats	3
EFB 100	Survey of Biology	4
ESF 200	Information Literacy	1

EWP 190	Writing And The Envrnment	3
EWP 220	Public Presentation Skills	2 - 3
EWP 290	Research Writing & Humanities	3
FCH 110 AND FCH 111 OR FCH 150 AND FCH 151	Survey of Chemical Principles Survey/Chemical Principles Lab General Chemistry I General Chemistry I Lab	3 1 3 1
FOR 132	Orientation Seminar: SRM	1
FOR 207	Introduction To Economics	3
FOR 360	Principles of Mgmt/Envrn Prof	3
SRE 150	Intro to Sust Energy Managemnt	1
FOR 110	Environmental Physics	3

Lower Division Elective Courses

Course	Codes*	Credits
General Education Courses - Select one from the following four subject areas: US History & Civic Engagement, The Arts, World History and Global Awareness, World Languages	G	3
General Education Course in Diversity, Equity, Inclusion and Social Justice	G	3

Upper Division Required Courses

CME 305	Sustainable Energy Sys/Bldgs	3
ESF 300	Intro/Geospatial Info Tech	3
FOR 205	Principles of Accounting	3
FOR 333	Natural Resrc Managerial Econ	3

FOR 411	Analytical&Tech Wrtnng/Resrc Mg	3
FOR 485	Business and Managerial Law	3
SRE 325	Energy Systems	3
SRE 337	Energy Resource Assessment	3
SRE 416	Sustainable Energy Policy	3
SRE 422	Energy Markets and Regulation	3
SRE 441	Biomass Energy	3
SRE 450	Sustainbl Energy Capstone Plng	1
SRE 454	Sustainable Energy Fin&Analysis	3
SRE 479	Life Cycle Assessment	3
SRE 491	Sustainable Energy Mgt Capstne	3

Upper Division Elective Courses

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		21

Total Minimum Credits For Degree: 120

