DETAILED COURSE DESCRIPTION

COURSE:
1. ENS 450 Renewable Energy Capstone Planning
2. Course Format: Discussion and group work
3. 1 Credit Hour - Fall.
4. Pre- or co-requisites: ENS 325, ENS 335, ENS 422

SCOPe:
1. Level of Instruction:
   ENS 450 is a required course for Environmental Science juniors in Renewable Energy and all students in the Renewable Energy minor.
2. Content:
   Major concepts or methodologies:
   1. Current issues and questions in renewable energy systems
   2. Creating and refining a problem statement.
   3. Describing methods that will clearly address objectives and research questions.
3. Relation to Curriculum:
   This is a required course in the Renewable Energy minor and the Environmental Science option in Renewable Energy. The material covered in this course will build on material covered in ENS 325 Energy Systems, ENS 335 Renewable Energy and ENS 422 Energy Markets and Regulation.

OBJECTIVES:
After completing this course the student should be able to:
1) Develop adequate skills at searching the literature
2) Develop adequate skills on organizing a scientific investigation and preparing a report
3) Create a concise, focused work plan for a research project for the spring semester including clear objectives, details of methods and timeline of activities.
4) Identify a faculty member who will supervise their capstone project.

INSTRUCTIONAL FORMAT AND MATERIALS:

Format: 0.5 hours classroom instruction and 0.5 hours supervised individual activity per week.
Materials: none
INSTITUTIONAL RESOURCES REQUIRED:

Anticipated Enrollment: 15 - 20 per semester

Technology and classroom resources: Classroom with computer projection system and chalk or dry erase board.

Computing resources: Students are required to have access to the internet to access literature on renewable energy and energy.

Library resources: Students will need to have access to online journals (e.g. Renewable Energy, Renewable and Sustainable Energy Reviews, Biomass and Bioenergy, Energy etc.)

Forest Properties or Field Practicum Facilities required: None

CATALOG DESCRIPTION:
ENS 450 Renewable Energy Capstone Planning [1 credit hours]

One hour group meeting every two weeks. This course will afford the student an opportunity to select a topic, in conjunction with the instructor, for detail investigation in Capstone II. Each student will work individually with the instructor to arrive at a feasible project. Fall

Prerequisites: ENS 325, ENS 335

Co-requisite: ENS 422

Instructor: Francis/Volk

Course format: Students will meet individually with the instructor, some class room sessions (approximately 0.5 hours/week) to review some major concepts in Renewable Energy

0.5 hour(s) classroom instruction per week [lecture, seminar, quiz, discussion or recitation] (0.5 hour equals 1 hour every two weeks)

0.5 hour(s) group instruction per week [laboratory, field trip, workshop, group studio]

0.5 hour(s) supervised individual activity per week [independent study, individual studio, tutorial]

0.5 hour(s) work experience per week [student teaching, practicum, or internship]

COURSE HISTORY:

This is a new course that is a requirement for the minor in Renewable Energy and the option in Renewable Energy in Environmental Science. Approved by faculty action 4/14/08. Revised 1/4/12, course prefix changed administratively.