Course Syllabus

Department: Environmental Conservation and Horticulture

Date: February 2, 2012

I. Course Prefix and Number: CON 235

Course Name: Wetland Science and Practice

Credit Hours and Contact Hours: 3 credit hours and 3 contact hours

Catalog Description including pre- and co-requisites: A survey and in-depth investigation of wetland terms and types, characteristic features and processes, and delineation, management and restoration practices. The course examines wetland hydrology and biogeochemical processes as well biotic adaptations to wetland environments. An emphasis is placed on achieving competency in recognizing the hydrophytic vegetation and hydric soil indicators commonly encountered in the non-tidal, freshwater wetlands of northeastern United States. The culmination of the course is an experiential project that applies this field-based knowledge with GIS resources to delineate a wetland on a local site according to current government standards.

II. Course Outcomes and Objectives

Student Learning Outcomes:

The student will

1. Demonstrate knowledge of different wetland types, defining hydrologic and biogeochemical processes, and biotic adaptations to the wetland environment (*reading, professional competency*)

2. Identify hydrophytic plants common to this area (*professional competency*).

3. Recognize hydric soil properties and demonstrate the ability to distinguish wetland soils from upland soils (*professional competency*).

4. Identify the hydric features used in defining regulatory wetlands (*professional competency*).

5. Practice using GIS to gather relevant data, plan fieldwork, and orally present final results of wetland delineation (*citizenship, computer literacy, information resources, oral communication, professional competency*).

6. Collaborate as a class to collate transect data and to delineate wetland boundary on a study site following current government regulations (*ethics and values, citizenship, professional competency,*).

7. Meet and interact with wetland professionals through guest lectures and field trips (*citizenship*).

8. Read articles in peer-viewed wetland journals and demonstrate knowledge of current issues in wetland science and applied practices (i.e., wetland delineation, management, and restoration) via written and orally presented literature reviews (*reading, oral communication, citizenship, professional competency)*.

Relationship to Academic Programs and Curriculum:

This course is Conservation elective for A.A.S. Natural Resource Conservation, A.A.S. Natural Resource Conservation: Law Enforcement, and A.S. Environmental Studies students. The course could also be used as a general elective in other degree programs.

College Learning Outcomes Addressed by the Course:

☐ writing	☒ ethics/values
☒ oral communications	☒ citizenship
☒ reading	☐ global concerns
☐ mathematics	☒ information resources
☐ critical thinking	
☒ computer literacy	

III. Instructional Materials and Methods

Types of Course Materials:

Textbook, primary literature, technical reports, plant identification guides, Soil Munsell color charts, hydric soil indicator guides, shovels, transect tape, dbh calibers, plant press, pH probe, GIS/GPS equipment and software, dissecting and compound microscopes

Methods of Instruction (e.g. Lecture, Lab, Seminar …):

Lectures, guest speakers, applied activities, and field trips

IV. Assessment Measures (Summarize how the college and student learning outcomes will be assessed):

Exams (used to assess Student Learning Outcomes #1-4) (*reading, professional competency*)

Wetland delineation project (used to assess Student Learning Outcome #2-6) (*ethics and values, citizenship, computer literacy, information resources, oral communication, professional competency*).

Oral presentations (used to assess Student Learning Outcome #5, 8) (*reading, citizenship, computer literacy, information resources, oral communication, professional competency*)

Student-prepared questions for guest lectures and field trips with professional hosts (used to assess Student Learning Outcome #7) (*citizenship*)

Literature reviews (used to assess Student Learning Outcome #8), (*reading, oral communication, citizenship, professional competency)*

V. General Outline of Topics Covered:

- Wetland functions and values
- Wetland classification (different types and defining properties)
- Biotic adaptations to the wetland environment
- Wetland regulations
- Wetland plant identification
- Hydric soils
- Wetland delineation, management, and restoration