Course Syllabus

Department: Environmental Conservation and Horticulture

Date: October 5, 2011

I. Course Prefix and Number: BIO 250

   Course Name: Field Botany

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

Catalog Description including pre- and co-requisites: Field identification, taxonomy, habitat preferences, and growth characteristics of trees, shrubs and herbaceous plants are the major topics covered in this course. Emphasis is placed on local flora and its utilization by man and wildlife. Important ornamental trees, New York State rare plants, introduced plants that are management problems, nonvascular plants, and the ecology of the eastern deciduous forest biome are highlighted. Considerable class time will be spent outdoors on campus and at nearby natural areas. (Also listed as CON 205.)

II. Course Outcomes and Objectives

   Student Learning Outcomes:

   1. Students will demonstrate plant identification skills for major plant groups (lichens, bryophytes, pteridophytes, gymnosperms and angiosperms).
   2. Students will identify the value of conserving plants in New York.
   3. Students will recognize the impacts of invasive plant species.
   4. Students will demonstrate knowledge of plant utilization by humans and wildlife.
   5. Students will demonstrate knowledge of the natural processes that create patterns within the eastern deciduous forest biome.
   6. Students will master the techniques of pressing plants to create a local collection.

   Relationship to Academic Programs and Curriculum:

Field Botany is a required course for students in the AAS Natural Resources Conservation degree program. It may also be taken as an elective for AS Environmental Studies, AAS Natural Resources Conservation: Law Enforcement and other FLCC degree programs containing a science elective.

   College Learning Outcomes Addressed by the Course:

   □ writing  □ computer literacy
   □ oral communications  X ethics/values
   X reading  □ citizenship
   □ mathematics  X global concerns
   X critical thinking  X information resources
III. Instructional Materials and Methods

Types of Course Materials:

The following descriptive field guides are required for this class. All guides utilize a dichotomous key to assist in plant identification.


Students also receive reprinted articles that describe taxonomy, human uses and wildlife values of specific plant groups in New York State.

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

A combination of lecture, discussion and campus field trips to natural areas, ornamental gardens and the college arboretum are used in this course.

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

80% of the students will demonstrate plant identification skills by achieving a passing score on relevant quizzes and exams, and by correctly labeling a majority of the pressed plants in their field botany plant collection project. (Use of dichotomous keys for plant identification requires analysis of the plant specimen, careful reading and critical thinking skills; completion of the plant collection project requires additional information resources.)

80% of the students will demonstrate knowledge on the value of conserving plants by achieving a passing score on specific exam questions. (Plant conservation addresses personal ethics and societal values.)

80% of the students will demonstrate knowledge on the impacts of invasive plant species by achieving a passing score on specific exam questions. (Invasive plants and their management are a recognized global problem.)

80% of the students will demonstrate knowledge of human uses and wildlife values of plants by achieving a passing score on relevant quizzes and exams. (Modern and historic uses and values of plants requires reading of class materials as well as other information resources.)

80% of the students will demonstrate knowledge of the eastern deciduous forest biome by achieving a passing score on the relevant quiz. (Knowledge of this biome requires reading of class materials as well as other information resources.)
V. General Outline of Topics Covered:
1. History of botany
2. Classification of the plant kingdom
3. Plant description - vegetative parts and reproductive parts
4. Introduction to scientific names
5. Wildflowers
6. Shrubs and vines
7. Deciduous trees
8. Coniferous trees
9. Winter botany
10. Lichens
11. Mosses and liverworts
12. Horsetails and clubmosses
13. Ferns
14. Eastern deciduous forest biome