RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

BIOL-232 Field Botany

I. Basic Course Information

A. Course Number and Title: BIOL-232 Field Botany

B. New or Modified Course: Modified Course

C. Date of Proposal: Semester: Fall Year: 2024

D. **Effective Term: Fall 2025**

E. Sponsoring Department: Science & Engineering

F. Semester Credit Hours: 4

G. Weekly Contact Hours: 6 Lecture: 3
Laboratory: 3
Out of class student work per week: 7.5

H. ☒ Prerequisite (s): BIOL-102 General Biology II or BIOL-150 Plants, Humans & the Environment or permission of instructor
☐ Corequisite (s): None

I. Additional Fees**:** None

II. Catalog Description

Prerequisites: BIOL-102 General Biology II or BIOL-150 Plants, Humans & the Environment or permission of instructor.
A field study of the plants of New Jersey, emphasizing methods of plant identification, the characteristics of major plant families, plant ecology and conservation. Labs consist of field trips to local natural areas, and will introduce students to the plant species of the region, their habitats, and relations to other species.

III. Statement of Course Need:

This is an introductory course in floristics, providing laboratory and field observations of N.J. vascular plant species – focusing on taxonomy and ecology. It complements our other courses with strong field study components: Introduction to Geology, and General Ecology. It is of interest especially to students of Biology, Environmental Science, the visual arts, and to the general public.

IV. Place of Course in College Curriculum

A. Free Elective

B. This course does not satisfy a general education requirement.
C. This course meets the Core Environmental Science program requirements for the Environmental Science A.S., Environmental Studies A.A., and the 200-level Electives for the Biological Sciences A.S.
D. Course Transferability: although the course is similar to many courses in four-year programs, transferability will have to be determined.

V. Outline of Course Content

A. Plant Taxonomy and Field Study
    1. Plant Morphology
    2. Identification and Taxonomic Keys
    3. Collecting and Preserving Specimens
    4. Botanical Inventories
    5. Technical Guides and References
B. Life Forms and Major Taxonomic Groups
    1. Mosses and Liverworts
    2. Ferns and Fern-Allies
    3. Gymnosperms: Conifers and Ginkgos
    4. Flowering Plants
        a. Woody Trees, Shrubs and Vines
        b. Forbs
        c. Grasses, Sedges and Rushes
C. New Jersey Flora
    1. Climate and Geology of New Jersey
        a. Physiographic Provinces
    2. Representative Plant Communities and Habitats

    3. Economy, Ecology and Conservation
        a. Human Uses of Plants

b. Indigenous vs. Non-Indigenous Species
c. Plant Pests and Diseases
d. Herbivory
e. Fire Ecology
f. Edible, Medicinal and Poisonous Plants
g. Endangered Plant Species

D. Winter Plant Identification

VI. A. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Apply the scientific method to identify unknown plant species in New Jersey (GE-3*)

2. Use standardized field research techniques to conduct plant surveys and botanical inventories (GE-3*)

3. Recognize, analyze and assess ethical issues and situations related to the effects of human activities on plants and their environments (GE-ER)

*embedded critical thinking

B. Assessment Instruments

Given the outcomes described above, the following assessment methods bay be used:

A. laboratory products
B. research papers
C. demonstrations
D. essays
E. journals
F. portfolios

VII. Grade Determinants

The following may be used to determine the final grade:

A. mid-term and final exam

B. field quizzes
C. research projects
D. book report
E. presentations
F. laboratory assignments

Given the goals and outcomes described above, LIST the primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. small-group work
C. computer-assisted instruction
D. guest speakers
E. student oral presentations
F. student collaboration
G. independent study

VIII. Texts and Materials

The following texts and course material may be used:

A. Suggested Texts:
   1. Newcomb, L. 1989. Newcomb's Wildflower Guide; Little, Brown & Co., New York.
   2. Watts, Mary T. Tree Finder. Wilderness Press.
   3. Hallowell and Hallowell. Fern Finder. Nature Study.
   4. Kimmerer, Robin. 2003. Gathering Moss: A Natural and Cultural History of Mosses. Oregon State University Press
B. Articles from scientific journals and periodicals
C. Field Journals
D. Student Writing
E. Films and Documentaries
F. Internet Databases and Information Sources
G. Library Article Databases

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

A. RVCC van and/or bus rental;
B. Library databases and other internet and library resources;
C. Natural areas on campus and elsewhere;
D. RVCC Herbarium, dissecting scopes, plant presses, and related supplies
E. Field guides and botanical manuals from RVCC Science Library
F. Calipers, hand lenses and other related field equipment for botanical studies

X. Check One: ☐Honors Course ☐Honors Options ☒ N/A