BIOL 2300

Division: Natural Science and Mathematics
Department: Biology
Course: BIOL 2300
Title: Plant Taxonomy
Catalog Description:

This course introduces general principles of identifying and classifying plants and use of plant identification manuals (known as 'Floras'). Emphasis is given to the identification and classification of common families and genera of flowering plants and selected other vascular plants. Some institutions of higher education recommend this class for elementary education majors.

General Education Requirements: Life Science
Semesters Offered: Fall
Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 0
Clock/Hour Requirements: 0
Offered for Non-Credit: No
Prerequisites: None

Corequisites: BIOL 2305 Plant Taxonomy Lab

Justification:

BIOL 2300 is designed to fulfill in-depth general education requirements for Life Science majors.This course may also fulfill the Life Science requirement for the AS or AA degree.

BIOL 2300 is required/recommended for majors in Biology, Botany, Natural Resources (Forestry, Range Science and Wildlife Resources) and other plant sciences such as horticulture. Some students take this course as an elective because they are interested in nature and want to know more about the flowers and other plant life around them. It is particularly helpful for those in Elementary Education (SUU recommends this course for elementary teachers), and agricultural areas.

Equivalent courses are taught at other USHE institutions.

Student Learning Outcomes:

1. Students will know the fundamentals of plant classification.

2. Students will know the common Flora of the world with emphasis on the Flora of Utah.

3. Students will know the distinctive traits and characteristics, ecologic and economic importance and phylogenetic relationships of selected angiosperm families, genera, and species.

4. Students will know how to collect, identify, and press plant specimens.

Content:

This course will include study of the following:

1. The aims of Plant Taxonomy.

2. The construction and use of dichotomous keys for plant classification.

3. Concepts of Taxa.

4. The use of the Binomial Nomenclature.

5. Field and herbarium methods: collecting and pressing plant specimens.

6. Techniques in plant identification.

7. Phytography and Teminology: roots, stems, buds, leaves, color, and surface characters.

8. Flowers and flower variations.

9. Inflorescences.

10. Floral formulas.

11. Fruits and seeds.

12. Review of historical development of classification systems.

13. Angiosperm (Magnoliophyta) classification.

14. Selected monocot (Liliosida) families

15. Selected dicot (Magnoliopsida) families

General Education Outcomes:

7) Apply scientific reasoning to a variety of contexts.

Students will classify plants based on the physical traits of the plants. This will be assessed through the quizzes and exams. Students will receive feedback from the instructor.

Key Performance Indicators:

The following assessments will be used:

- Quizzes (20% of grade);
- Mid-term exam (40% of grade)

- Final exam (40% of grade)

These percentages are approximate.

Representative Text and/or Supplies:

Judd, et al. Plant Systematics -A Phylogenetic Approach. Current edition. Sinauer Associates, Inc. Sunderland, Massachusetts.

Welsh, S.L., N.D. Atwood, S, Goodrich, and L.C. Higgins. Current edition. A Utah Flora. Brigham Young Univ., Provo, Utah.

Optimum Class Size: 15
Maximum Class Size: 24

Signatures:

I hereby submit this course syllabus:

Luis Gordillo, PhD, Associate Professor

I hereby find this course consistent with the goals and resources of the Biology Department:

Allan Stevens, , Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)