# BIOL 2305

**Division:** Natural Science and Mathematics
**Department:** Biology
**Course:** BIOL 2305
**Title:** Plant Taxonomy Lab
**Catalog Description:**

The Laboratory portion of Plant Taxonomy provides hands-on exercises that reinforce the major topics covered in BIOL 2300. This class includes field trips to study and collect plants and students will present a properly preserved and identified plant collection at the end of the term.

**General Education Requirements:** Life Science Lab
**Semesters Offered:** Fall
**Credit/Time Requirement:** Credit: 1; Lecture: 0; Lab: 3
**Clock/Hour Requirements:** 0
**Offered for Non-Credit:** No
**Prerequisites:** None

**Corequisites:** BIOL 2300 Plant Taxonomy

**Justification:**

BIOL 2305 is designed to fulfill the Life Science lab requirement for an AA or AS degree. BIOL 2305 is required or recommended for majors in Biology, Botany, Natural Resources (Forestry, Range Science and Wildlife Resources) and plant science majors 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 of study.

This class includes field trips which are essential in helping the students become familiar with the different plant communities and their composition, and helping in collecting, pressing, and identifying the plants collected.

**Student Learning Outcomes:**

1. Students will know the fundamentals of plant classification.

2. Students will be familiar with the common 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 collect, identify, and press plant specimens.

**Content:**

This course will include:

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:

16. Field trips

17. Plant Collection

**General Education Outcomes:**

7) Apply scientific reasoning to a variety of contexts.

Students will collect, identify, and preserve plants according to established procedures in the field of plant taxonomy. This will be assessed through quizzes, exams, and plant collection. Students will receive feedback on these activities.

**Key Performance Indicators:**

Course grade will be determined by the following assessments:

- Regular attendance and participation in lab activities and the scheduled field trips (10% of grade),
- Quizzes (15% of grade),
- Mid-term examination (25% of grade)
- Final examination (25% of grade)
- A collection of plants, pressed, identified and classified make up part of the grade (25% 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)