

SYLLABUS

COURSE # AND TITLE: BIOL 250, Systematic Botany

OF CREDITS: 4 (3+2P)

CATALOG DESCRIPTION

A study of classification and taxonomy of vascular plants. Topics covered in lecture and laboratory deal with taxonomic principles and philosophy, nomenclature, terminology, use of keys, and history of classification systems. The use of cytogenetics, anatomy, ecology, palynology, chemistry, and the computer in modern systematics is discussed. Students will learn to recognize many of the major plant families and will be taught the methods of botanical fieldwork. A plant collection will be made. Field trips are required, including a three-day excursion to southeastern Utah.

Semester Offered: On Demand

Prerequisites: None

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will...

<i>Learn</i>	<i>Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.</i>
<i>Think</i>	<i>Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.</i>
<i>Communicate</i>	<i>Students will exchange ideas and information with clarity and originality in multiple contexts.</i>
<i>Integrate</i>	<i>Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.</i>
<i>Act</i>	<i>Students will act purposefully, reflectively, and respectfully in diverse and complex environments.</i>

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1. Understand the importance of scientific names versus common names.
2. Demonstrate the ability to identify the ferns and their allies.
3. Explain the importance and identify the major Gymnosperms found in the Four Corners area.
4. Understand and identify the vegetative morphology of flowering plants.
5. Identify selected plant families found in the Four Corners.

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

- 1.1 Understand the components of scientific names.
- 1.2 Explain the difference between species, genus, and specific epithet.

- 1.3 Recognize the advantages and disadvantages of both scientific and common names.
- 2.1 Identify Four Corners examples of **Lycopodiaceae**, **Selaginellaceae**, **Equisetaceae**, **Isoetaceae**.
- 2.2 Identify selected Four Corners examples of **Aspleniaceae**, **Dennstaedtiaceae**, **Dryopteridaceae**, **Marsileaceae**, **Ophioglossaceae**, **Polypodiaceae**, and **Pteridaceae**.
- 3.1 Identify and explain the importance of Four Corners examples of **Pinaceae** and **Cupressaceae**.
- 3.2 Identify the Four Corners examples of **Ephedraceae**.
- 4.1 Understand terminology that applies to roots, stems, and leaves.
- 4.2 Understand terminology that applies to flowers, inflorescences, and fruits.
- 5.1 Identify examples from numerous Angiosperms found in the Four Corners region.

Syllabus developed by Kenneth D. Heil Date: 04 May 2005

Syllabus reviewed by _____ Date: _____

A current syllabus must be on file in the dean's office for every course being taught during a given semester.