SMU-IN-TAOS  Fort Burgwin Campus

May term

Biology 1308  Plant Biology

The Instructor: Dr. John Ubelaker, Professor of Biological Sciences. Ubelaker@smu.edu cell 214726 5014; SMU campus office 234, 214 768 2728

The Environment:

The Fort Burgwin campus is an interdisciplinary teaching and research facility located at an elevation of 7,400 feet in a mountain valley of the Sangre de Cristo Range in north-central New Mexico. The campus occupies over 400 acres in the midst of the Carson National Forest. Alpine to desert environments are within easy driving distances and adjacent watersheds include a wide range of Rocky Mountain flora and fauna. This is a remarkable setting for studying plant biology. The prehistory and history of the region are vividly represented by the presence of Pueblo ruins, Spanish colonial and Frontier Western architecture. The city of Taos illustrates Spanish settlement from the 16 century and is well known as a center for the visual arts.

THE FACILITIES:

The campus encompasses a reconstructed frontier cavalry cantonment which houses classrooms, a modern library and computer lab and research labs. Students live in small dormitories, casitas of adobe construction. Each casita is electrically heated and provides complete lavatory and shower facilities as well as a living room-study area with fireplace. Meals are served in a spacious dining-assembly hall.

THE COURSE:

The course will provide an introduction to the plant kingdom, a study of their evolutionary relationships, adaptations and field identification. Plants will be collected, pressed and mounted as herbarium specimens. An experiment on invasive plants will be designed and carried out. The student will spend approximately four hours each day in lectures and field trips with additional day
long field trips by vehicle and on foot to the varied habitats in the Taos region. The course satisfies three hours of the science requirement for non-science majors and has been approved by the General Education Council.

LEARNING OBJECTIVE OUTCOMES:
Using native plants of the region the student will learn to identify the major groups of plants and recognize the unique adaptations that each group has evolved for survival. Students will learn the underlying facts of evolution as they apply to the plant kingdom. Students will learn how to collect and preserve specimens of plants for professional study. Students will learn the basic features of the scientific method, design and carry out an experiment on invasive plant species.

TEXTBOOK: *Wild Plants and Native Peoples of the Four Corners* by Tierney and Dunmire is on reserve in the library. A laboratory manual, *Plants of Northern New Mexico*, is available at Ft. Burgwin upon arrival, $30.00. Please bring $30.00 to our first meeting.

DISABILITY ACCOMMODATIONS.
Students needing academic accommodations for a disability must first be registered with Disability Accommodations & Success Strategies (DASS) to verify the disability and to establish eligibility for accommodations. Students may call 214 768 1470 or visit [http://www.smu.edu/dass.asp](http://www.smu.edu/dass.asp) to begin the process. Once registered students should then schedule an appointment with the professor to make appropriate arrangements.

RELIGIOUS OBSERVANCE: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence (See University Policy No. 1.9)
Syllabus for Plant Biology

May
15 Arrival after 4:00 and check in at the dining hall. Dinner from 5-6:30; orientation after dinner. Plant Biology students will meet briefly after the orientation to receive laboratory notebooks.
16 Lecture at 8:30-11 at the tables outside the cafeteria. Laboratory from 11-12 In the fort classroom. Plant diversity in the southwest; first uses of plants as Medicines. Laboratory on the first plants, algae
17 Lecture and lab as above; evolution from Aristotle and Plato to understanding Geology. Fungi and lichens in lab.
18/19 Free days
20 Lecture and lab as above; Evolution from the geologists to Darwin. Lab on Mosses.
21 Lecture and lab as above; Darwin and evolution; lab on horsetails
22 Lecture and lab as above; Effects of Evolution. lab on Gymnosperms
23 Field trip to Ojo Calentie; leave at 8:00 from the cafeteria,
24 Lecture on Alpine, Canadian zone plants
25/26 Free days
27 Lecture and laboratory on Angiosperms
28 Lecture and laboratory on Angiosperms
29 Field trip to Gorge leave at 8:30 from Cafeteria.
30 Review for final exam
31 Final exam
June
1 Departure by 10:00 a.m.