

SSE '03

10

Chaminade University * Biology 103 * Summer Evening Program
Introduction to Plant Biology (Intro Botany)
July 7 – September 10, 2003

Course: Bi 103 0 Introduction to Plant Biology (3.0 cr)
Days/Times: Mondays/Wednesdays (Within 5:30 - 9:55 p.m. time frame allotted for Lect/Lab)
Instructor: Shirley B. Gerum, B.A., Botany; MPH Environmental Health
Mailing Add: P. O. Box 18; Haleiwa, HI 96712 **Office Hours:** Immediately after class (or by appt)
Text: *Introductory Plant Biology* by Kingsley Stern

I. Course Description: During the course of this semester, we will concentrate on the distribution, identification, anatomy/structure and physiology of plants—with special attention to identification and uses of tropical/sub-tropical plants of Hawai'i. To ensure that the lessons learned in semi-tropical Hawai'i can be applied anywhere else on earth you may be sent, there will be an emphasis on plant family recognition.

According to the author of your text, the word botany (the study of plants) comes from the French word *botanique* (botanical). Of course, we go to the Greek/Latin roots for the ultimate basis of scientific terms and find three Greek words: *botanikos* (botanicqal), *botane* (plant or herb) and *boskein* (to feed), which appear to have origins with Stone Age peoples who sought to modify their surroundings and feed themselves.

Although the traditional science of botany comes to us from the information handed down from these early Greeks who developed a practical interest in food and drug plants and became curious about the structure and function of plant (Plato, Aristotle, Theophrastus, Dioscorides, who lived between 384 B.C-70 A.D.), we must not forget that cultures all over the globe were also making outstanding observations and contributions to our collective plant knowledge. Some observations were passed down orally in cultures where there was no written language, some recorded on material barely readable and some in languages/dialects yet to be translated. A backlog of Chinese, Etruscan, Mayan, Tibetan, Arabic, Incan, etc., records await translation. We have just scratched the surface.

II. CLASS OBJECTIVE: To provide students with a basic understanding of botany:

- To become familiar with the biology and physiology of plants (their cellular, chemical composition and the functions of their organs and structures)—macro and micro
- To learn how plants fit into the 5(+) kingdoms of Life on Earth recognized today, the ways plants
- are classified within the plant kingdom (with emphasis on providing skills in learning to recognize plant families by close examination in the field).
- To understand and appreciate how plants (which contain the original solar collectors) have made life possible on our planet (by providing oxygen and food)
- To develop an understanding of the fragile nature of life and the world's endangered species
- To gain an understading of how plants have literally changed the history of the world as a result of crop failures leading to mass migrations, exploration/exploitation for commerce/new trade routes, trade wars, stock market gains and losses
- To draw upon use of plants for food, medicine, bioremediation (phytoremediation), forensic science for our lessons and continually look for examples in our surroundings

III. Methodology:

- Reading assignments from text, handouts, news media; independent research, documentation.
- Class lectures structured to provide students with basis for further application in the biological sciences.
- Assignments designed to reinforce botanical/biological concepts discussed in this course. Life experiences will be incorporated whenever applicable to provide students with the vocabulary and skills needed for competency in the biological sciences.