

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

Transfer Course A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: BOT 101L - General Botany Laboratory

UNIT VALUE: 1

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS:

PREREQUISITE: Completion of, or concurrent enrollment in, Botany 101

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

A laboratory course in plant biology. Special emphasis on the structure, growth, function, genetics and life cycles of major plant groups. *Not open to students with prior credit in BOT 100.* CSU;UC

SPECIFIC COURSE OBJECTIVES:

Upon completion of this course, successful students will be able to:

1. Compare and contrast the structure, function, and reproduction of all plant groups;
2. Analyze the structure and function of cell organelles, cell types, and tissues associated with the angiosperm plant body;
3. Analyze the metabolic and growth processes which occur in plants;
4. Compare and contrast life cycles in non-vascular and vascular plants;
5. Evaluate soil-water relationships in plants by experimentation;
6. Plant various seeds and plant parts to compare the growth of plants by sexual and artificial methods;
7. Apply genetic principles as they relate to plant systems by undertaking genetic experiments; and
8. Collect, analyze and interpret scientific data.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Growing Plants in a Greenhouse
- II. Enzymes
- III. Use of Microscope
- IV. Osmosis and Diffusion
- V. Respiration
- VI. Photosynthesis
- VII. Plant Cells and Tissues
- VIII. Modified Leaves: Structure of Leaves; Roots
- IX. Herbaceous Stems, Monocotyledonous Stems, Woody Dicot Stems, Coniferous Wood, Pine, Angiosperm Wood, Modified Stems
- X. Water Movement, Growth and Development, Growth Hormones
- XI. Mitosis and Meiosis
- XII. Mendelian Genetics, DNA and Genetic Engineering
- XIII. Bacteria and Blue-green Algae, Green Algae, Diatoms and Plankton, Red and Brown Algae
- XIV. Slime Molds, Lower Fungi, Ascomycetes, Lichens, Basidiomycetes
- XV. Liverworts and Mosses, Fern allies, Ferns
- XVI. Gymnosperms, Flower, Fruits and Seeds
- XVII. Seed Germination and Seedling Development

REQUIRED READING:

Dean, H. L. Biology of Plants: Laboratory Exercises. 6th Edition. Dubuque: Wm. C. Brown Publishing Co., 1987.

Laboratory exercises and supplements prepared by the instructor and handed out during lab.

SUGGESTED READING:

None

REQUIRED WRITING:

Students are required to maintain a written planting journal of 8 - 10 pages on four types of seeds and ten different plant parts to include cuttings, bulbs, cones, tubers, rhizomes, etc. Entries are typically records of weekly growth, drawings or photos of plants, growth curves and growth summaries. Students also complete lab exercises each week and submit essay type answers to each exercise.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Students are expected to complete the reading material for each laboratory exercise and their journal assignment. Students shall integrate laboratory exercises and reading materials, as well as prepare themselves for examinations.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Students will be evaluated through one planting journal, practicum quizzes, and weekly laboratory exercises.

Planting Journal	1/3 of grade
Practical Quizzes	1/3 of grade
Laboratory Exercises	1/3 of grade

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Wayne P. Armstrong

SIGNATURES ON FILE
