



Introductory Botany Biology 101

“The great French Marshall Lyautey once asked his gardener to plant a tree. The gardener objected that the tree was slow growing and would not reach maturity for 100 years. The Marshall replied, ‘In that case, there is no time to lose; plant it this afternoon!’”

John F. Kennedy (1917 - 1963)

Course

Description and Objectives. This course provides an overview of major biological concepts as illustrated by plants. These concepts include anatomy, morphology, physiology, reproduction, ecology, evolution, and classification. Lecture and laboratory, 4 credits.

Student Objectives: Successful students will be able to differentiate and recognize the major phyla of extant plants and the subgroups within each phylum, understand the major evolutionary events in the radiation of plant life, define for each plant group the diagnostic and ecologically important structures and their functions, compare and contrast complex life cycles, integrate laboratory exercises with lecture material, and apply this knowledge to basic plant propagation and horticultural techniques. You are responsible for all of the material presented in lecture and all of the material covered in the assigned readings.

General

Sections: Attend ONLY your assigned sections. Lect00A, Hoyt 105 (MW) 11:00 - 12:15; Lab00B, Hoyt 221 (M) 2:00 - 3:45. Lab00C, Hoyt 221 (T) 2:00 - 3:45.

Textbook and materials: No textbook is required and the laboratory exercises will be provided. You must purchase a 6-inch ruler with metric scale. Always bring your ruler and a calculator to lecture and laboratory.

Prerequisites: None.

Instructor: Dr. Richard E. Clopton, Professor of Biology. BS (1987) Agriculture; MS (1989) Entomology; Ph.D. (1993) Parasitology; University of Nebraska-Lincoln. Other Research Training: Molecular Biology, Colorado State University; Insect Pathology, Texas A&M University. My research includes the systematics and taxonomy of parasites of insects and the evolution of biodiversity. I am interested in how the world became biologically diverse, especially the effect that evolutionary novelty in one lineage may have on diversification of symbiotic lineages. My office schedule appears below.

R. E. Clopton, PhD (rclopton@oakmail.peru.edu)					
Office: Hoyt 312	Daily Class & Office Schedule				Phone No.
Spring 2011					
	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 am to 9:15 am	Course Preparation	Course Preparation	Course Preparation	RESEARCH	RESEARCH
9:30 am to 10:45 am	Intro. Botany Biol 101 Lecture Hoyt 105	Office/Lab Hours	Intro. Botany Biol 101 Lecture Hoyt 105	RESEARCH	RESEARCH
11:00 am to 12:15 pm	Comp. Vert. Evol. Biol 420 Lecture Hoyt 307	Comp. Vert. Evol. Biol 420 Lab Hoyt 221 (→1pm)	Comp. Vert. Evol. Biol 420 Lecture Hoyt 307	RESEARCH	RESEARCH
12:30 pm to 1:45 pm	Office/Lab Hours	Comp. Vert. Evol. Biol 420 Lab Hoyt 221 (→1pm)	Office/Lab Hours	RESEARCH	RESEARCH
2:00 pm to 3:15 pm	RESEARCH	RESEARCH	Office/Lab Hours	RESEARCH	RESEARCH
3:30 pm to 4:45 pm	RESEARCH	RESEARCH	Office/Lab Hours	RESEARCH	RESEARCH

I am available in my office or the adjoining lab during office hours. I am available at other times by appointment only.

Course Plan

Topic Schedule: The lecture topic sequence appears below. This is a rough guideline subject to change. I reserve the right to alter the Course Syllabus with notice given during regularly scheduled lectures.

Week of:	Lecture, Due Dates
Jan10	Botany, What plants are.
Jan 17	Seeds and Primary Growth
Jan 24	Plant Growth I: Cellular Growth, Life Cycles
Jan 31	Plant Anatomy I: Organs and Tissues
Feb 7	Plant Anatomy II: Tissues; TEST I (Feb 9)
Feb 14	Plant Growth II: Regulation and Hormones
Feb 21	Plant Energetics Overview: Photosynthesis and Respiration
Feb 28	Evolution: population dynamics, micro evolution macroevolution
Mar 7	NO CLASS – MID TERM BREAK
Mar 14	Overview of Plant diversity and evolution. TEST II (March 16)
Mar 21	Chlorophyta - Diversity and Life Cycles
Mar 28	Gymnosperm Diversity and Life Cycles
Apr 4	Bryophyte Diversity and Life Cycles
Apr 11	Pteridophyte Diversity and Life Cycles;
Apr 18	Gymnosperm Diversity and Life Cycles TEST III (April 20)
Apr 25	NO CLASS MONDAY. Dead Week. Angiosperm Diversity and Life Cycles
May 2	FINALS WEEK

Assessment

Grading: Three exams (3@100pts each); Laboratory quizzes (100 pts total); Classical vocabulary exercises (100pts); Total of 500 pts: A (90-100%), B+ (85-89%), B (80-84%), C+ (75-79%), C (70-74%), D+ (65-69%), D (60-64%), F (<60%). I reserve the right to modify the final grade distribution.

Exams: Exams will be based on lectures and any assigned readings. We will discuss their format as the first exam approaches. Exams will be given **ONLY** when scheduled: if you have a conflict, tell me before the end of the first week of class. *There are no exceptions. None.* Missed exams score zero points is unexcused and are prorated if excused. A missed test is excused if and only if I have given consent **PRIOR** to the test. Permission to be excused from an examination will be given only in cases involving extreme or extenuating circumstances. College functions, class field trips, and athletic events do not constitute “extreme or extenuating circumstances.” These are scheduled events and it is **YOUR** responsibility to inform me of the conflict in a timely manner. I will assume no official PSC sanctioned conflicts with the test schedule below after the first week of lecture. Do not email, telephone, or leave phone messages regarding missed lectures or exams: I delete them without consideration.

Laboratory quizzes: There will be a quiz each week in laboratory. Quizzes will cover material from the previous week’s laboratory exercises and lecture material. They may be multiple choice, matching, practical, or short answer. Quizzes will be held at the beginning of lab or during the last 10 minutes of the scheduled laboratory meeting. Tardiness affords no extra time; missed quizzes will be graded as zeros. There are no makeup quizzes in Introductory Botany. *Don’t even ask.* Do not email, telephone, or leave phone messages regarding missed labs or quizzes: I delete them without consideration.

Classical vocabulary exercises: It is much easier to learn, understand, and utilize biological terminology if your vocabulary includes a fundamental knowledge of common classical (primarily Latin and Greek) words and an understanding of how they are combined to express biological ideas. Botany 101 includes a basic short course in classical terminology. You will receive a new lesson/exercise set each week and you will be tested *over the content with a short quiz at the beginning of lecture each Wednesday.* This is easy. I give you the answers and all you have to do is systematically memorize them: that is how one acquires secondary language.

Other Course Policies and Notes

Interruptions: Active cell phones are not allowed in lecture or laboratory without my permission for extenuating circumstances (active duty military service, first-response on-call, imminent parturition, etc.). Please turn off your cell phones prior to entering the lecture or laboratory. Active cell phones during an examination or quiz are a violation of academic integrity and are grounds for summary failure of the course, regardless of course performance.

Laboratory attendance: Laboratory is required, not optional. Failure to complete laboratory constitutes failure to complete the course as a whole. One unexcused absence will result in the loss of 10% of laboratory points; 2 unexcused absences will result in the loss of 50% of the laboratory points; 3 absences, **for any reason**, constitutes failure to complete the laboratory and results in the loss of all laboratory points.

How to do well: It is not my job to teach you botany. My job is to present the material to you in such a way that you can learn botany. Learning is something you have to do for yourself, but I offer the following strategies:

1. **Attend lecture:** Attend class regularly and politely, arrive punctually, and complete all assigned work on time. The overwhelming bulk of the material for exams will come from lectures. Perfect attendance is the most important thing you can do to succeed in this course. Consistent attendance will improve your final grade more than any other investment of time that you can make.
2. **Take notes industriously:** Constant and diligent note-taking is essential to assembling the information in this course. You are responsible for the information whether or not it appears in your notes.
3. **Review, reorganize, and rewrite your notes:** Rewriting your notes in an organized way will help you organize the information in your mind, find mistakes, fill in gaps, and be prepared to ask me questions about material to clarify the information. This is particularly helpful with a good study partner from the course.
4. **Make a vocabulary list.** You must master the working vocabulary of the discipline in order to succeed. Use your notes and your textbook to assemble a vocabulary list. For each word or phrase, note what the term means and what kind of plant it applies to. *Add to the list after each lecture or reading assignment as the first step in studying new material.* If you need an aid to learn the terms, prepare a stack of index cards with terms on one side and definitions on the other. Sort the cards into three stacks -- terms you know, terms you sort of know, and terms you don't know. Go through your cards in your free time until you only have one stack -- terms you do know. Use your vocabulary as it develops or you will lose it.
5. **Ask questions:** Do not hesitate to interrupt in lecture and ask questions. Come to class prepared to ask questions; I always ask for questions at the beginning of each lecture. Come and see me outside of class.
6. **Draw.** Botany is largely a visual experience: knowing what phloem bundles are is almost worthless unless you know what plants possess them, what they do, what they look like, and where they are. Drawing even rough sketches is the best way to learn this type of material.

Laboratory policies: Other laboratory guidelines and rules will be discussed during the 1st lab.

1. **Multiple sections:** There are other sections of Botany being taught this semester. You must attend the lab section in which you are enrolled.
2. **Responsibilities:** Your responsibilities are to learn: 1) the taxonomic names of the specimens you are looking at, e.g., phylum and class names; 2) the structures that the lab directs you to find; and, 3) the functions of the structures. Your other responsibility is to maintain with due diligence any living organism placed in your care. The labs are intended to be self-directing assuming 2 things: 1) that you follow the instructions in the lab; and 2) that you faithfully bring and consult any lab guidelines provided to you by me.

College Policies

Academic Integrity

The College expects all students to conduct themselves in a manner that supports an honest assessment of student learning outcomes and the assignment of grades that appropriately reflect student performance. It is ultimately the student's responsibility to understand and comply with instructions regarding the completion of assignments, exams, and other academic activities. At a minimum, students should assume that at each assessment opportunity they are expected to do their own original academic work and/or clearly acknowledge in an appropriate fashion the intellectual work of others, when such contributions are allowed. Students helping others to circumvent honest assessments of learning outcomes, or who fail to report instances of academic dishonesty, are also subject to the sanctions defined in this policy.

Instances of academic dishonesty may be discovered in a variety of ways. Faculty members who assign written work ordinarily check citations for accuracy, run data base and online checks, and/or may simply recognize familiar passages that are not cited. They may observe students in the act of cheating or may become aware of instances of cheating from the statements of others. All persons who observe or otherwise know about instances of cheating are expected to report such instances to the proper instructor or Dean.

In order to promote academic integrity, the College subscribes to an electronic service to review papers for the appropriate citations and originality. Key elements of submitted papers are stored electronically in a limited access database and thus become a permanent part of the material to which future submissions are compared. Submission of an application and continued enrollment signifies your permission for this use of your written work.

NSCS Board of Trustees Policy 4220 states that each College “. . . will establish a distance learning assessment policy that will include, at a minimum, a substantial culminating experience that is proctored.” Peru State College's policy is that each course that is offered entirely online will feature a proctored final exam that substantially measures the extent the course's stated learning objectives are achieved. Courses which feature graded site-based activities (e.g., teaching demonstrations) and/or video-taped presentations that occur near the end of the term, and that are designed to substantially assess the achievement of learning objectives, can be considered in compliance with this policy. Project-based capstone and graduate

courses utilizing real-time discussions held by web-cam, phone or in person with the faculty member as part of the assessment process can also be considered in compliance with this policy.

Should an occurrence of academic misconduct occur, the faculty member may assign a failing grade for the assignment or a failing grade for the course. Each incident of academic misconduct should be reported to the Dean and the Vice President for Academic Affairs (VPAA). The VPAA may suspend students for two semesters found to be responsible for multiple instances of academic dishonesty. The reason for the suspension will be noted on the student's transcript.

A faculty member need present only basic evidence of academic dishonesty. There is no requirement for proof of intent. Students are responsible for understanding these tenets of academic honesty and integrity. Students may appeal penalties for academic dishonesty using the process established for grades appeals.

Title IX Compliance Notice

Peru State College is an equal opportunity institution. PSC does not discriminate against any student, employee or applicant on the basis of race, color, national origin, sex, disability, religion, or age in employment and education opportunities, including but not limited to admission decisions. The College has designated an individual to coordinate the College's nondiscrimination efforts to comply with regulations implementing Title VI, VII, IX, and Section 504. Inquiries regarding non-discrimination policies and practices may be directed to Eulanda Cade, Director of Human Resources, Title VI, VII, IX Compliance Coordinator, Peru State College, PO Box 10, Peru, NE 68421-0010, (402) 872-2230.

Students requesting reasonable accommodation and tutoring services should contact the Center for Achievement and Transition Services (CATS).