Biology 1411
General Botany Lab - Fall 2021

College of Science & Engineering

Role of Lab:

Lab exercises are designed to supplement lecture topics. The labs at the beginning of the semester provide you with opportunities to explore the cells and tissues that make up stems, roots, leaves and the ways these organs are modified for different habitats. In the middle of the semester we will begin investigating plants, plant-like, fungi, and fungi-like organisms. You will see living examples of representatives of each phyla and, with most of the organisms, study how the organism reproduces (a very important feature in differentiating these organisms). The information presented in lab will help you better understand lecture topics.

Student Learning Outcomes:

The learning outcomes for lab involves hands-on exploration of prepared materials and living organisms that allow each student to:

- Be able to identify cells, tissues and organs in plant and fungi-like members of the Kingdom Protista, Kingdom Plantae, and Kingdom Fungi by name, origin, and function
- Be able to recognize and identify morphological and anatomical structures that allow living organisms to carry on fundamental life processes in different environments.
- Be able to identify representatives of the major phyla by common and/or scientific name.
- Be able to describe and compare and contrast the distinguishing characteristics of the phyla (=divisions) of plant-like and fungi- like protists in the Kingdom Protista and the characteristics of members of the Kingdom Plantae, and Kingdom Fungi.

Meeting Time and Place:

Lab: 2:00-4:50pm M or W, CAV123 and CAV116

Required Textbook:

Evert, R. F. and S. E. Eichhorn. 2012. Raven Biology of Plants, 8th edition, W. H. Freeman & Co.

Attendance:

I expect you to be on time and present for every lab. You are required to stay in lab until you have completed all of the exercises or until the lab formally concludes at the scheduled time. When you leave lab, you are required to sign out; a sheet will be available at the front of the room for you to sign your name and the time you are departing. If you leave before you have completed the exercises, you will be counted absent.

Lab Preparation Requirements:

Before each lab, go to Blackboard Lab and open the file for the scheduled lab. There are four things you must do before lab.

1. Complete the textbook reading assignment and read/study the pre-lab exercise (both required). The information presented in Pre-Lab Exercises and Pre-Lab Quizzes may be included on Post Lab Quizzes and Lab Practicals.
2. Take the pre-lab quiz (optional but see extra point opportunity information in the Botany Lecture Syllabus). If you elect to take the pre-lab quiz, you may take it as many times as you wish; your highest score will be recorded. You may refer to the textbook reading assignment and/or the pre-lab exercise or your notes as you take the quiz. However, you are NOT allowed to receive any type of assistance from another student.
3. Bring either a hardcopy or electronic copy of the lab exercise with you to lab. Bring your textbook with you to lab (it has illustrations and labeled images which will be very helpful).
4. Be prepared to take a post lab quiz at the beginning of lab over the previous lab information (all spellings must be correct).

Lab Protocol:

When you enter the lab for the first day of lab, select a table and seat. This will be your work station for the remainder of the semester. For each lab exercise you may work with another student or a group of students; however, I expect everyone to be a full working participant. When an answer is requested in an exercise you must answer it on your lab write-up using your own words. Your words will mean more to you when you are reviewing the information for the post lab quiz and lab practical. You will not turn in your completed lab exercises.

Instructions are provided for each lab exercise; read them carefully and proceed at your own pace. Answer all questions; complete all tables; label the illustrations provided. Make drawings as directed. Study demonstration materials. *Ask me questions if you don't understand or if you are uncertain about any part of an exercise*. I am here to help you learn.

After making wet mounts, wash and dry the slides and cover slips (discard broken ones) and return cleaned slides and cover slips to their boxes on your worktable. Treat materials with care; many of the slides we will be using during the semester are expensive and difficult to replace.

When you have finished the lab exercises, clean your work area. Prepare your microscope for storage by:

- Making certain no slide is on the stage.
- Place the lowest objective in viewing position.
- Use the coarse adjustment knob to move the nosepiece as close as possible to the stage.

- Rewind or fold the power cord or remove the cord and place it one of the center drawers at your work station.
- Cover the microscope with a plastic cover.
- Return the microscope to a storage area (either in the storage cabinet atyour workstation or on the shelves at the back of the lab room).