

MICROSCOPE TECHNOLOGY PROJECT

PLANT ANATOMY BIO 4354 / 5354

THIS PROJECT IS WORTH 100 POINTS AND WILL BE GRADED ON THE BASIS OF COMPLETENESS, ACCURACY, CLARITY, TECHNICAL SKILL, AND CREATIVITY.

This project will help students learn how to take pictures of specimens observed with the aid of a microscope and digital technology. Students will use the equipment provided to obtain high-resolution photographs of specimens that will assist future students in learning about plant anatomy. The instructions are as follows:

- 1. Obtain your topic from the instructor and learn about your topic from resources in the textbook, lab manual, library, Internet, and lecture. Become familiar enough with your topic to know which photographs you want to obtain and what materials are available in lab to take your pictures.**
- 2. Review materials (slides and fresh specimens) available in the lab and make sure you have what you need to obtain good photographs. If you don't have the microscope slides or fresh materials that you want, you will need to purchase the items yourself through the Internet or local sources.**
- 3. Familiarize yourself with the microscope and camera equipment. You will be provided with instructions on how to obtain pictures.**
- 4. Make sure your specimen is clean before you take pictures. Microscope slides can be cleaned gently with alcohol and a delicate cloth that does not leave lint on the glass (Kimwipes seem to work very well as long as you are gentle with the cleaning process).**
- 5. Note that you will probably have to take many (dozens or perhaps, hundreds) of photographs in order to get one that is suitable for submission as part of your project. You should always use high-resolution settings on the camera, but should vary other settings to see which works best for your photographs.**
- 6. You will need to submit a minimum of ten (10) good pictures (photomicrographs) using the microscope and camera. They should be submitted in both electronic (CD or USB drive) and paper format, with the paper format being submitted in duplicate. Files for the electronic version of photographs should be labeled as the "species name" followed by the .jpg extension. One paper copy should display just the image and the other paper copy should include the species name, magnification, and section viewed, with all parts neatly labeled.**
- 7. You may ask your instructor (once) if the quality of your photographs is acceptable, but after that, you should follow your best instinct to determine what is best. In other words, the instructor will not "give you an idea" of what grade you will earn before turning in your complete project.**
- 8. Your project should be submitted in a large envelope or folder (don't forget your name) that has the electronic files and the two paper copies of your pictures NO LATER THAN 5:00 PM ON THE SECOND FRIDAY IN NOVEMBER.**

SPECIAL INSTRUCTIONS FOR GRADUATE STUDENTS - RESEARCH PROJECT

In addition to the project described (above), graduate students are required to provide a written report that describes the structures being studied.