



# BIOLOGY 4354/5354 Fall 2024

CRN 14113/14114 Tentative Syllabus

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## PLANT ANATOMY (LAB)\*

All Sections: MW 9:00 - 11:50 AM

Howell Hall: Room 154

<https://bidlack.net/> or <https://bidlack.org/>

<https://www3.uco.edu/centraldirectory/profiles/2120>

## Dr. Jim Bidlack

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Office Hours: TR 10:00-11:50 AM

F 3:00-3:50 PM

**PLANT ANATOMY LAB:** This is a three-hour per week laboratory to accompany BIO 4354/5354.

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\*All students must attend PLANT ANATOMY LECTURE. It meets on Mondays and Wednesdays from 9:00 to 11:50 PM in Room 154 of Howell Hall.

Laboratory Textbook: Amiet, C.F., and J.E. Bidlack. 2024. *Laboratory Guide to Plant Anatomy*. Twentieth Edition. Available in class.

<u>Lab</u>	<u>Date</u>	<u>Lab topic</u>	<u>Point value</u>
<b>August</b>			
1	21	The Microscope and Plant Cell Structure	10
2	28	General Anatomy and Morphology	10
<b>September</b>			
3	11	Cell Types and Tissues	15
4	18	Xylem	15
5	25	Phloem	15
<b>October</b>			
6	2	Vascular Architecture	15
7	9	Primary Roots	15
8	16	Primary Stems	15
9	23	Primary Root and Stem Development	15
10	30	PART 1: Secondary Growth	7.5
11	30	PART 2: Wood Anatomy	7.5
<b>November</b>			
12	6	Leaves	15
13	13	Trichomes, Secretory Structures, and Idioblasts	15
14	20	Reproductive Structures and Life Cycle	15
	27	Thanksgiving Holiday	
<b>December</b>			
15	4	PART 1: Seeds and Seedlings	7.5
16	4	PART 2: Fruits	7.5
	9-13	FINAL EXAMINATIONS	

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TOTAL POINTS

200

*Lab Reports must be handed in BEFORE CLASS on the meeting day following completion of the experiment. Summaries of research papers discussed during lab periods should be stapled to the front of the lab report and will be used in determining total points awarded for each report.*

# LABORATORY REPORTS

## BIOLOGY 4354 and 5354 PLANT ANATOMY LAB

1. Lab reports are required and must be handed in **BEFORE CLASS** on the day the report is due.
2. Reports will be graded on the basis of completeness, clarity, and creativity.
3. Points, as listed on the tentative laboratory syllabus, will be used for the value of each report. The total value for all lab reports is 200 points.
4. Format for your lab reports will be as follows:

**Article Summary** (if needed): Write a one-page synopsis of the article and issues discussed during class. Staple this summary to the front of your report.

**Title**: Try to convey the objective of the experiments in a brief title. For example, "Use of the Microscope and Generalized Cell Structure."

**Introduction**: Briefly explain the purpose of the experiments and give the reader an idea of practical applications. This should be about 1 to 4 sentences in length.

**Results and discussion**: This section should be written to enable the reader to conceptualize observations, drawings, tables, graphs, and other figures presented in the report. **DRAWINGS SHOULD INCLUDE THE NAME OF THE SPECIMEN DRAWN, SECTION VIEWED, AND MAGNIFICATION.** All results should be neatly presented in an easy-to-read, straightforward, and entertaining manner. Highlight the major points of each experiment and provide your interpretation of results. This is the most important part of your laboratory report.

**Conclusions**: Briefly summarize (less than 5 sentences) key concepts and explain why they are important in studying plant anatomy. Tell what you learned from your investigations.

5. Ease of reading, neatness, and entertainment value, all contribute towards excellent lab report grades. Make the report enjoyable to read and provide an explanation of what you learned in the Conclusions section.