

COURSE OBJECTIVES

- 1) To learn the fundamental principles of plant biology;
- 2) To develop and apply skills in the gathering of data about plant biology;
- 3) To examine the fundamental principles which govern natural ecosystems, the basic theories of biological evolutionary change, the structure and function of plant cells, and the anatomy and physiology of representative plant groups;
- 4) To develop general field and laboratory skills, reporting of results, and independent problem solving.

C O U R S E R E Q U I R E M E N T S

[<http://www.olemiss.edu/biology/faculty/mholland>]

1) **Attendance is required for all lectures, videos, field trips, and laboratories.** Excessive absences will be reported to the Dean. Assignments or exams missed due to unacceptable and unexcused absences will not be made up. Students are responsible for all lecture material missed through absences. Report an absence at once to the instructor [915-5874].

2) **The laboratory is a required part of the course. In other words, the lecture cannot be taken for credit without the laboratory, and vice versa.** As such, the laboratory topics are closely integrated with the lecture topics. Similarly, one grade is given for the course. The semester grade is based on total points.

3) Absences from the Final Exam and incomplete work will be handled according to university procedures, as given in the catalog.

4) Allocation of points for semester grades:

Exams (two hour tests and Final Exam)	350
Laboratory exams/quizzes	100
Annotated Bibliography (10 entries, due 14 Nov.14)	50
Pollination Exercise write-up (due 9 Oct. 14)	20
UMFS sampling – team project (due 23 Oct. 14)	30
Laboratory Notebook (including all drawings and graphs from all lab exercises, due 4 Dec. 14)	<u>50</u>
	600

5) Dr. Holland's office is located in Shoemaker 430. Office hours are as follows:

Tuesday	3:00 p.m. - 5:00 pm
Wednesday	1:00 p.m. - 3:00 p.m.

6) It is expected that all work turned in to Dr. Holland is the end result of independent and creative efforts on the part of each individual student. The University of Mississippi Creed supports academic honesty.

Text: Bidlack, James E. and Shelley H. Jansky. 2011. Stern's Introductory Plant Biology. 12th edition. The McGraw-Hill Companies, Inc., New York, 622 pages. OR 13th edition (2014, 625 pages).

SCHEDULE OF THE COURSE

<u>Week</u>	<u>Date</u>	<u>Lecture Topic</u>	<u>Reading Assignments</u>
1.	Aug. 26	Introduction to Botany	Ch. 1, 2 & 3
2.	Sept. 2	Evolution	Ch. 4, 13, 15, 16
3.	Sept. 9	Ecology	Ch. 24, 25, 26
4.	Sept. 16	Cells	Ch. 2, 12, 13, 14
5.	Sept. 23	Photosynthesis	Ch. 10
***	Sept. 25	FIRST EXAM	
6.	Sept. 30	Fungi	Ch. 17, 18, 19
7.	Oct. 7	Bryophytes	Ch. 20
8.	Oct. 14	Seedless vascular plants	Ch. 21
9.	Oct. 21	Gymnosperms	Ch. 22
10.	Oct. 28	Angiosperms	Ch. 23
***	Oct. 23	SECOND EXAM	
11.	Nov. 4	Angiosperm Structure	Ch. 4, 5, 6, 7
12.	Nov. 11	Secondary Growth	Ch. 6 & 8
13.	Nov. 18	Plant Hormones	Ch. 11
14.	Dec. 2	Water and Plant nutrition	Ch. 9
****	Dec. 9	* FINAL EXAMINATION *	12:00 noon

Grades: A (90 – 100%); B (80 – 89%); C (70-79%); D (60-69%); F (59% and below)

BOTANY FIELD AND LABORATORY EXERCISES

<u>Date</u>	<u>Topic/Activity</u>
Aug. 28	Plant diversity, cells And tissues[Sh 213]
Sept. 4	Library Room 106E
Sept. 11	UMFS/ intro to sampling
Sept. 18	UMFS sampling
Sept. 25	pollination
Oct. 2	UMFS sampling
Oct. 9	Plant identification
Oct. 16	Data analysis
Oct. 23	Bryophytes
Oct. 30	Ferns & fern allies
Nov. 6	Conifers & allies
Nov. 13	Vascular plant structure
Nov. 20	Flowers,fruits,& Ethnobotany
Nov. 27	Thanksgiving
Dec. 4	Lab exam
Dec. 9 at noon	Final exam

INSTRUCTIONS FOR PREPARATION OF AN ANNOTATED BIBLIOGRAPHY

The topic of the bibliography should be a subject of particular interest to the student, but not necessarily covered in much detail in lecture. Regardless of the topic, the bibliography paper should consist of numerous entries selected from the literature. Students are urged to research a particular topic using Biological Abstracts, which is available in the John Davis Williams Library. The OleMiss Library subscribes to a variety of scientific periodicals, such as Bioscience, Botanical Review, Ecology, Natural History, Marine Biology, Proceedings of the National Academy of Sciences, and Scientific American, and students are encouraged to peruse these periodicals in developing a bibliography. Science Librarian Buffy Choinski has put together some valuable information regarding preparation of an Annotated Bibliography at <http://guides.lib.olemiss.edu/content.php?hs=495420> Through inter-library loan, it is also possible to obtain materials the OleMiss Library does not have.

You should select a topic, have it approved, and turn in two to three abstracts by 30 September 2014. Students are encouraged to use their own textbooks, along with plant-related web sites [e.g. Missouri Botanical Garden, New York Botanic Garden, USDA Plant Database] as sources of information.

Your final paper (due 14 November 2014) should consist of three parts:

- 1) a one-page overview (summary) of the topic;
- 2) an outline of the topic with only the author's last name and date of publication listed for each subheading;
- 3) the bibliography itself, consisting of ten (10) entries, with:
 - a. each reference properly cited in alphabetical order (see footnote below);
 - b. a paragraph summarizing in your own words the contents of the paper, showing its relevance to your topic;
 - c. at least one source published in 2014.

FOOTNOTES:

1. References should be cited in the following manner:
 - a) Books: Smith, J.C. 2010. An introduction to wetland plants. McGraw-Hill Co., New York, p. 124.
 - b) Journals: Jackson, R.S. 2009. Studies of dispersal in higher plants. Ecology 61: 123-134.
 - c) web site: Author's name (or web master). Date. Title. <http://www.olemiss.edu/~mholland> The New York Times, NY, NY, USA. (Date accessed)
2. Sample bibliographies are available from Dr. Holland.
3. Please be sure to check spelling before submitting a paper.