

Field Botany

INSTRUCTOR: Dr. David Krayesky, Associate Professor of Biology
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TEXTBOOK(S): Bidlack, Stern's Introductory Plant Biology, 14th ed., by James Bidlack (Lead Contributor), Shelley Jansky, & Kingsley Stern. ISBN 9781260030136. ebook.

DESCRIPTION: Traditionally this is a field class, but due to COVID-19 it will be taught as a lecture course in the format of a General Botany course. The primary focus of the class is to enhance student understanding of the flora in western Pennsylvania as it relates to the taxonomy of select species and the groups to which these organisms belong. Organisms that will be covered include: Flowering plants (woody angiosperms and common wildflowers), Conifers, Ferns & Fern allies, Bryophytes, Lichens, and some representative Fungi and Macroalgae in our flora. Terminology associated with general plant/fungal/algal structure as well as life cycles of these aforementioned organisms will be described. Students will be introduced to both terrestrial and aquatic organism. Students will generate a personal herbarium (a plant collection) of the plant species they encounter, during the course.

OUTCOMES: Upon the successful completion of the course students should be able to:

- Learn to recognize the major plant and lichen groups
- Learn to recognize some of the common fungi and algae in our flora
- Learn how to identify unknown plant and lichen species of Western Pennsylvania using professional and amateur keys
- Learn plant terminology and understand the life cycles of the major groups of organisms in the botanical flora of western Pennsylvania
- Learn the basic plant/lichen/fungal structures and their functions.
- Students will be able to identify some of the common invasive species in western Pennsylvania that displace our native plants

GRADING: A lecture midterm & final exam will account for (50%) of your grade; Quizzes will count for (10%) of your grade. A 1000 word paper on an invasive species of your choice (20%). A 300 word paper discussing the distribution of a species of lichen in Pennsylvania and abroad. (20%).

Invasive species paper: At minimum a 1000 words 12 point Times New Roman font. The paper should be entitled *The invasive species...* Your paper should introduce the invasive species you are writing about which is an invasive to North America. Use the scientific name and if it has a common name introduce that name as well. In this essay describe the species and

account morphological variation, its economic importance, geographic distribution, habitat requirements, and region of origin. In addition, development/reproduction, how the taxon came to North America, what is being done to suppress the species distribution/impacts on the North American flora. Also don't forget to state to which Phylum and Family/Class that the species belongs. Cite your work throughout the paper [e.g. (Smith 1985), (Smith & Webb 1990), and (Webb et al. 2005)], and have a literature cited page that lists your full citations [see below]. Use primary literature and have at least five references. Do not use online sources. Include an **introduction**, **conclusion**, and break the essay up with the **subtitles** (topics listed above). Double space for your line spacing throughout your essay. Put the information in your own words, as you should not be extensively quoting others.

(Due at the beginning of Week 2)

Lichen paper: At minimum a 300 words 12 point Times New Roman font. The paper should be entitled *The lichen...* you must select a species. Use the scientific name and common name if it has one. In this essay describe the species and describe what type of environment/habitat that you would find it in. Discuss the distribution of your selected species in the commonwealth of Pennsylvania and abroad. Does your lichen have any important attributes... i.e. is it a food source or does it have a beneficial use for one group or many groups of organisms. Consortium of North American Lichen Herbaria (CNALH) website <https://lichenportal.org/cnalh/> to get information the distribution of the species you select. Search the Ohio State herbarium and find a sample of the species you selected, and provide an image of the label of your sample in your essay (this can be done through CNALH). Regarding this sample label you provide identify in your essay identify the year it was collected, the collector and the determiner. Double space for your line spacing throughout your essay. Put the information in your own words, as you should not be extensively quoting others. Have at least to citations in your work.

(Due at the beginning of Week 3)

These both of these papers are to be your written work. Do not plagiarize, and for specific information on the topic of plagiarism go to <http://www.plagiarism.org>. Students who plagiarize will automatically receive an "F = 0pts" on the assignment.

For your literature cited section, follow the format below.

Literature Cited:

- Lillywhite, HB., Sheehy III, CM., and McCue, MD. 2002. Scavenging Behaviors of Cottonmouth Snakes at Island Bird Rookeries. *Herpetological Review* 33(4): 259-261.
- Arnold, JR. 2002. *Dangerous Visions: Television and Violence in American Society* (2nd ed.). New York: Greenwood Press.