

**BIOL 4900 Senior Seminar**

**Fall Semester 2020**

**Instructor: Dr. Carter**

**Office: BC 1105**

**Herbarium: BC 1040**

**Telephone: (229) 333-5338**

**Weekly Schedule**

Science Seminar Series

Cancelled because of Covid-19 crisis; seminars will be virtual

Senior Seminar

Wednesday 5:00-6:50 pm BC 3009

Office Hours: Your instructor will be available for remote consultation through Collaborate Ultra in Blazeview 5:00–6:50 PM Wednesdays and other times by appointment.

**Use of BlazeVIEW D2L.** Blazeview D2L will be used to facilitate communication between instructor and students and to disseminate various course materials and information and to administer assessments. Students are expected to log onto Blazeview daily to check for announcements and updates and to use Blazeview Mail for communication relating to the course.

**Course Description.** Pre- or Co-requisite: Completion of all required courses in the senior curriculum for the biology major. Graded “Satisfactory” or “Unsatisfactory.” The capstone course in biology. Students are required to attend outside lectures chosen by the instructor. This course assesses students’ ability to research independently topics in biology, assimilate the information, and disseminate the information in an organized and understandable fashion in both written and oral forms. Besides demonstrating comprehension of their topic and competence in communication skills, students take the ETS Major Field Test in biology and complete the departmental Senior Exit Questionnaire for successful course completion. [0-3-1]

**Course Objectives.** The purpose of this course is to assess the student’s ability to research a topic in biology independently, to assimilate information, and to disseminate information logically in both written and oral form. Besides demonstrating comprehension of their topic and competence in communication skills, students must satisfactorily complete the ETS Major Field Test in Biology and complete the departmental Senior Exit Questionnaire for successful completion of the course.

**Major Field Test.** The ETS Biology Major Field Test is a comprehensive, standardized test designed to evaluate the student’s general knowledge in the sub-disciplines of biology. The test scores will be used to evaluate the effectiveness of the department’s curriculum, and VSU’s scores will be compared to the national average to identify possible areas of weakness in our curriculum. Thus, students should take the test seriously and make every effort to excel on it. *Completion of the ETS Major Field Test with a score of 140 or higher is a course requirement, and students who fail to complete the ETS Major Field Test will receive a grade of unsatisfactory for the course.*

With regard to scheduling an appointment to take the Major Field Test, the Office of Testing has provided the following statement: Due to social distancing guidelines, there is a limited number of appointments available and a strict no walk-in policy – no exceptions will be made. Students must schedule at <https://www2.registerblast.com/valdosta/Exam/List>. **Students must complete the Major Field Test before the October 8 midterm date.** A fee is assessed to take the Major Field Test. However, the Biology Department will pay the fee for each student to take the test once. Students who fail to score at least 140 have the option of re-taking the test until a score of 140 is achieved; however, the student will bear the cost for any re-taking of the Major Field Test. If the instructor has not received a report from the Testing Center of a score of at least 140 by 5:00 PM December 7, the student will receive a grade of Unsatisfactory (U) for the course. For more information on the Major Field Test in Biology please refer to the ETS website. (<http://www.ets.org/mft/about/content/biology>).

**Virtual Science Seminars.** Although face-to-face science seminars are normally scheduled for Tuesdays at 12:45 PM, all seminars will be virtual this semester because of the Covid-19 crisis. Each

student is required to complete and submit via Blazeview a 3-2-1 assessment for five (5) of these virtual seminars. Links for approved virtual seminars will be posted in Blazeview at approximately biweekly intervals, and students will be given one week to complete the 3-2-1 assessment for each of these seminars.

**Plagiarism.** Recognition of and respect for the ownership of property is one of the distinguishing features of civilization. Ideas come from individuals and are effectively owned by their originators; thus, ideas are intellectual property. In the academic sphere, we frequently deal with the ideas of others, most often in published form. As with tangible property, intellectual property is subject to ownership and protection. Moreover, publication establishes ownership of intellectual property. It is essential that we respect the ideas and writing of others and that we scrupulously cite all sources of any and all ideas that are not our own.

*Random House Webster's College Dictionary* (2000) defines **plagiarism** as "the unauthorized use of the language and thoughts of another author and the representation of them as one's own." There are many forms of plagiarism. Perhaps the most blatant form is copying from some other source without citing that source. Other types of plagiarism include using a paper written by another and the improper citation of references. When paraphrasing, the author of the paraphrased material must be properly cited, and, when words are taken directly from another source, their author must be properly cited and the quotation must be placed within quotation marks for short quotations or in a separate paragraph with special indentation for longer quoted passages. [See note below on limitations of length for quoted passages.] Plagiarism is theft of intellectual property, and the simplest way to avoid plagiarism is to give credit where credit is due! For your guidance, access to several websites dealing with issues of plagiarism is provided through WebCT VISTA. Also, the following statement from the Writing Tutorial Services website at Indiana University is useful.

To avoid plagiarism, you must give credit whenever you use

- another person's idea, opinion, or theory;
- any facts, statistics, graphs, drawings – any pieces of information – that are not common knowledge;
- quotations of another person's actual spoken or written words; or
- paraphrase of another person's spoken or written words.

<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>; Copyright 2004; last updated 27 April 2004

It is imperative that the term paper be the student's own original work. Plagiarism will not be tolerated, and any student caught plagiarizing shall receive a failing grade on the term paper and a grade of unsatisfactory in the course. Please be forewarned that various web search engines will be used to check for plagiarism. *Each student will be required to read the VSU Biology Department's Plagiarism Policy and to sign a form to be kept on file with the department, indicating they have read and comprehend this policy.*

### **Grading**

Students will be evaluated and their grade determined as follows:

3-2-1 assessments of five (5) virtual science seminars	20 points
Outline of term paper with references	20 points
Oral presentation	30 points
Term paper – due at time of oral presentation	<u>30 points</u>
Total	100 points

Additionally, the course grade will be adversely affected as follows:

Plagiarism will result in an automatic final grade of Unsatisfactory (U).	
Each absence from a scheduled student presentation	-10 points
Failure to score 140 or higher on Major Field Test in Biology	-40 points
Failure to complete Senior Exit Questionnaire	-40 points

### Final Grade:

Satisfactory (S)  $\geq 70$  points

Unsatisfactory (U)  $< 70$  points

**Outline of Term Paper.** An outline of the term paper including a bibliography (list of references, properly cited and formatted) is required. The outline should include title, general sections or subheadings of the paper comprising at least four levels, and a list of references properly formatted for the References Cited section. The outline must be double-spaced, left-justified, and printed using 12-point Arial font. Below is an example of an outline with four levels. Each student should submit to the instructor her/his outline of the term paper as a MS Word file by placing the file in their allocated folder under BIOL 4900B on the Z-drive. The due date for the outline is provided below in the course schedule.

- I. Introduction
  - A. History of knowledge about *Azolla-Anabaena* symbiosis
  - B. General nature of *Azolla-Anabaena* symbiosis
    1. Symbiosis vs. mutualism
    2. Extent of symbiosis within *Azolla*
      - i. Number of species
      - ii. Distribution of species
      - iii. Proportion of species exhibiting symbiosis with *Anabaena*
    3. Extent of symbiosis within *Anabaena*
      - i. Number of species
      - ii. Distribution of species
      - iii. Proportion of species exhibiting symbiosis with *Azolla*
  - C. Significance of *Azolla-Anabaena* symbiosis to humans
    1. Historical
    2. Current
  - D. Statement of specific points to be discussed
- II. Discussion
  - A. ....

**Term Paper.** The term paper is due prior to the time of the scheduled oral presentation. Each student should submit to the instructor her/his term paper as a MS Word file by placing the file in their allocated folder under BIOL 4900B on the Z-drive. Throughout, including the literature cited section, the term paper must be double-spaced, left-justified, and in 12-point Arial font. Excluding the title page, each page must be numbered at the bottom center of the page, and margins must be one inch on all sides. Numbering of pages should begin with the first page of the Introduction, not the title page. Excluding title page, tables and figures (if used) and literature cited, the body or text of the term paper must be no shorter than five (5) pages and no longer seven (7) pages. Excessive margins (i.e., greater than one inch) and spacing will be deducted in determining whether the five (5) page minimum requirement has been met.

The term paper should begin with a **Title Page** (un-numbered) that shall include the title of the paper, name of the author, course title and number, name of instructor, and the submission date. As is the case with a good story, the term paper should have a beginning (introduction), a middle (discussion), and an end (conclusion). Under the heading of **Introduction**, the body of the paper shall begin with a general introduction to the topic. The introduction should be a synthesis of the knowledge in the area of research

and the principal questions that will be examined in the discussion section. Under the heading of **Discussion**, the introduction is followed by a detailed discussion of the subject containing references to specific scientific studies. Here discuss the subject in detail, citing references where appropriate. Finally, under the heading of **Conclusion**, the body of the term paper concludes with a summary based upon the student's interpretation of the articles. Summarize the current state of knowledge on the topic, possibly suggesting additional kinds of research or analyses that might be done to explore the topic more fully or answer questions posed in the discussion section. Subheadings for each section may also be included as appropriate. The final section of the term paper is headed **Literature Cited** and *must include at least seven (7) published references, at least five (5) of which must be primary literature*, i.e., scientific articles from biological journals. Bear in mind that review articles are synthesized from the primary literature; however, they are not primary literature, but are more comparable with a textbook or a term paper. All references included in the literature cited section must be cited at least once in the body of the paper. Each reference must be cited at the end of the appropriate sentence or section by author's last name and year enclosed in parentheses. If used at all, tables and figures should be numbered sequentially and placed in order (tables before figures) after the literature cited section.

**Further restrictions on numbers and types of references.** No more than one textbook or review article may be used or cited. Web sites and web pages shall neither be used, nor cited as sources.

**Restrictions on use of direct quotations.** Direct quotations are to be avoided. No direct quotation shall exceed five (5) words in length. If used, direct quotations must be set off in quotation marks and the author and date cited immediately after the quotation. Also, be reminded that sources of all paraphrased material and any ideas originating from others must be properly cited.

**Citation of References.** Citations within the body of the paper should be enclosed within parentheses and should include the author's last name and the year of publication. The following are examples: (Cronquist, 1981); (McNaughton and Wolf, 1973); (Baker, 1965; Chase et al., 2000; Petřík, 2003). All references, including books, must be cited where appropriate in the body of the paper and listed in alphabetical order in a **Literature Cited** section at the end of the term paper in one of the following formats.

For books by a single author or a group of authors:

- Cronquist, A. 1981. *An integrated system of classification of flowering plants*. Columbia University Press, New York. 1262 pp.
- McNaughton, S. J. and L. L. Wolf. 1973. *General ecology*. Holt, Rinehart and Winston, Inc. New York. 710 pp.
- Reed, C. F. 1977. *Economically important foreign weeds*. Agriculture Handbook No. 498. United States Department of Agriculture. Washington, D.C. 746 pp.

For chapters in books:

- Baker, H. G. 1965. Characteristics and modes of origin of weeds, Pp. 147-172, in: Baker, H. G. and G. L. Stebbins (Eds.), *The genetics of colonizing species*. Academic Press, NY.
- Chase, M. W., D. E. Soltis, P. S. Soltis, P. J. Rudall, M. F. Fay, W. H. Hahn, S. Sullivan, J. Joseph, M. Molvray, P. J. Kores, T. J. Givnish, K. J. Sytsma and J. C. Pires. 2000. Higher-level systematics of the monocotyledons: an assessment of current knowledge and a new classification, Pp. 3-16, in: Wilson, K. L. and D. A. Morrison (Eds.), *Monocots: Systematics and evolution*. CSIRO Publishing, Collingwood, Victoria.

For articles in periodicals:

- Petřík, P. 2003. *Cyperus eragrostis* – a new alien species for the Czech flora and the history of its invasion of Europe. *Preslia, Praha* 75:17-28.
- Simpson, D. A. and C. A. Inglis. 2001. Cyperaceae of economic, ethnobotanical, and horticultural importance: a checklist. *Kew Bulletin* 56:257-360.

**Miscellaneous Instructions.** Before beginning your research, become proficient with the system required by your instructor for proper citation of references. When photocopying articles or other

materials, use the models provided by your instructor as guides to write the full reference citation, properly formatted, at the top of the first page of photocopied material. Errors can be readily corrected with minimal difficulty, if a good sharpened pencil is used instead of a pen.

Bear in mind that the student is expected to read and comprehend all cited materials. As each source is read and studied, notes should be taken with proper documentation, including the full reference citation. Detailed and precise citation of page numbers for each quoted or paraphrased element is especially useful and essential documentation. Note cards or larger sheets are useful to keep track of notes and documentation. If your notes include direct quotations, then set these off using quotation marks to avoid errors of plagiarism later. All sources of information should be accurately and scrupulously recorded at this stage of your research to avoid errors of plagiarism.

Do not depend too heavily upon direct quotations. When long series of direct quotations is strung together, it is usually readily apparent that little or no assimilation and synthesis has been done by the student. The same applies to paraphrased materials. Read from a variety of sources, fully documenting each on note cards or sheets of paper, and develop concepts as you go. Then synthesize this into a series of coherent sentences in your own words, citing all sources of information, data, or ideas within. *Procrastinators beware!* This requires time and effort and cannot be done effectively at the last minute.

Whenever possible, use primary sources. Also, be aware that the introductory sections of most journal articles include a short review of the research topic in which earlier works (usually primary sources) are cited. Although review articles and most books are secondary sources, they can provide easy entry into the body of literature on a topic. When the author of a review or book cites data, results, or ideas from an earlier work, then it is the student's responsibility to go to the original source, read it thoroughly and critically, and cite it.

**Oral Presentation.** Each student will be required to make an oral presentation on his/her research topic and will be allocated a total of 20 minutes for this presentation, including five minutes for questions. These presentations will be made during the last few weeks for the semester, and each student will be assigned a date and time for her/his presentation shortly after the beginning of the term. During the first 12–15 minutes, the student will stand and discuss the topic, and the remaining five minutes will be reserved for questions and general discussion. PowerPoint is recommended as the medium for oral presentations. Students are urged to practice their oral presentations prior to delivery to enable them to become comfortable, confident, proficient, and temporally compliant. Caveat: Your instructor will call time and cut you off, should your actual presentation exceed the 15 minute limit. It is the student's responsibility to insure that her/his presentation can be properly shown using the computer and projection system available, which means the student is responsible for testing the system and presentation at least several hours **before** beginning the scheduled presentation. Students must work with their instructor well in advance of the presentation to prevent last minute problems. As a general rule, the oral presentation should follow the same outline and rules as the term paper. In particular, plagiarism rules apply equally to oral presentations. All sources of materials, including photographs, diagrams, graphs, etc., must be appropriately and completely cited. Literature citations for oral presentations should be done in the same manner as in the term paper, and the final slide(s) should show all of the literature used and cited. Prior to making the presentation, each student should submit to the instructor her/his PowerPoint presentation by placing it in their allocated folder under BIOL 4900B on the Z-drive.

### **Topical Theme: *Medicinal Botany***

You will select a plant species that is used medicinally as the subject of your research. Your instructor has posted an extensive PowerPoint presentation for a short course on medicinal plants, which might be useful in selecting a plant species as the subject of your research. However, you are not limited to species taken up in this PowerPoint presentation. In writing your term paper and preparing your Powerpoint presentation, please bear in mind that the following information should be included: name of the medicinal product (drug or medicine); in addition to common name(s), the scientific name of the source species (binomial, or in certain instances where more than one species might be used, the genus name); plant family of source species; higher classification of this plant family (i.e., bryophyte, lycophyte, monilophyte, tracheophyte, spermatophyte, gymnosperm, angiosperm, ANA grade, magnoliid, eudicot, or

monocot); area where the source species is native; historical background of its discovery and use; how the drug is used; efficacy; and problems, if any, associated with its use. You should review the hierarchy of classification of plants in order to show the higher classification of your subject accurately and logically.

### **Course Schedule, Including Important Due Dates**

Wednesday, 19 August – First Class Meeting  
Wednesday, 2 September, 5:00 PM – Deadline for choosing research topic  
Wednesday, 30 September, 5:00 PM – Outline with references for term paper due  
Thursday, 8 October – Midterm and deadline for completing Major Fields Test in Biology  
Wednesday 28 October – First week of oral presentations  
Wednesday, 4 November – Second week of oral presentations  
Wednesday, 11 November – Third week of oral presentations  
Wednesday, 18 November – Fourth week of oral presentations  
Wednesday, 25 November – Friday, November 27 – Thanksgiving Holiday  
Tuesday, 24 November -- Last day for on-campus classes  
30 November–7 December – Flex Week

### **Schedule of Oral Presentations**

Note: Final schedule with assigned dates for individual presentations will be posted in Blazeview.

#### **Wednesday, 28 Oct 2020**

Presentation 1 (20 minutes)  
Presentation 2 (20 minutes)  
Presentation 3 (20 minutes)  
Presentation 4 (20 minutes)  
Presentation 5 (20 minutes)

#### **Wednesday, 11 Nov 2020**

Presentation 1 (20 minutes)  
Presentation 2 (20 minutes)  
Presentation 3 (20 minutes)  
Presentation 4 (20 minutes)  
Presentation 5 (20 minutes)

#### **\*Tuesday, 23 Nov 2020**

**[12:45 – 1:35 PM]**

Presentation 1 (20 minutes)  
Presentation 2 (20 minutes)  
Presentation 3 (20 minutes)

\*To be used only as necessary.

#### **Wednesday, 4 Nov 2020**

Presentation 1 (20 minutes)  
Presentation 2 (20 minutes)  
Presentation 3 (20 minutes)  
Presentation 4 (20 minutes)  
Presentation 5 (20 minutes)

#### **Wednesday, 18 Nov 2020**

Presentation 1 (20 minutes)  
Presentation 2 (20 minutes)  
Presentation 3 (20 minutes)  
Presentation 4 (20 minutes)  
Presentation 5 (20 minutes)

### **Checklist of Course Requirements**

- \_\_\_ Completion of the Major Field Test in Biology with a score of 140 or above
- \_\_\_ Completion of Senior Exit Questionnaire
- \_\_\_ Outline with references for term paper
- \_\_\_ Oral presentation
- \_\_\_ Term paper
- \_\_\_ Attendance face-to-face (or remote) of all student seminar presentations. Note: Remote participation via Collaborate Ultra in Blazeview will be allowed, as necessary, so long as it is approved in advance by your instructor.
- \_\_\_ Completion of five (5) 3-2-1 assessments in Blazeview of approved virtual science seminars posted by instructor in Blazeview