Seminar: Natural History of Invertebrates – Fall 2019
BIO 470.003: Th 9:30 – 10:45, Miller Science-134A

Welcome to BIOLOGY 470! This section of BIO 470 is designed to provide upper-class BIO majors experience communicating an area of expertise in oral and written fashion. Communicating findings in an informative presentation is an essential skill for professionals of all sorts, particularly scientists. The topic of this section is the natural history of invertebrate animals.

COURSE CATALOG DESCRIPTION: Student participation in general and specific topics in biology. One credit hour.

PREREQUISITES: 20 semester hours of biology; no co-requisite.

Instructor: Dr. Dan Bennett
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Office: S-210; Office hours: W 1:00-4:00; Th 2:00-4:00; and available widely by appointment.

Required Materials
Primary literature. Eight research articles from primary literature associated with the topic of student interest will provide the required literature for this course.

Suggested Materials

GRADING POLICY: Your grade will be determined by the following elements.
Preliminary topic list: 2%
Annotated bibliography draft 1: 3%
Annotated bibliography draft 2: 3%
Presentation abstract and outline: 6%
Oral presentation: 55%
Peer presentation summaries: 28%
Participation: 3%

GRADING SCALE: A = 90–100%; B = 80–89%; C = 70–79%; D = 60–69%; < 60% = F

PARTICIPATION & ATTENDANCE POLICY: Attendance is required for all class meetings and presentations. Absences will be excused for illness accompanied by a doctor’s note, university-sponsored events and family emergencies with documentation. Unexcused absences and tardiness will detract from the final participation grade and the final overall grade for excessive absence, tardiness, and/or poor behavior. Unexcused absences will detract 3%, and tardiness and poor behavior (e.g., texting, lack of participation in discussions) will be penalized 1%. Failure to contribute to the end of course evaluation will result in a 1% detraction from the overall grade.

Major Field Biology Exam: BIO 470 students are required to take the major field exam in biology. Students must sign up at the start of the semester for this test with Testing Services (Rusk Building rm 328; 936-468-3958) http://www.sfasu.edu/ccs/testing/) for sessions TBA. Students failing to take this test will be assigned a withheld grade (WH) for the course and their final grade will be reduced by 10 percentage points.

TENTATIVE COURSE CALENDAR:
Week 1 (Aug. 29): Course intro and background on invertebrates
Week 2 (Sept. 5): Literature searching strategies. Sign up for presentations
Week 3 (Sept. 12): Preliminary topics due; topic discussion
Week 4 (Sept. 19): Discussion – oral communication strategies and critiques
Week 5 (Sept. 26): Discussion – poster presentations strategies and critiques
Week 6 (Oct. 3): Individual consultations with instructor (students must meet with instructor during class time or office hours during week 6 or 7 [not both weeks]) annotated bibliography draft 1 due at time of meeting
Week 7 (Oct. 10): Individual consultations with instructor
Week 8 (Oct. 17): Presentations
Week 9 (Oct. 24): Presentations
Week 10 (Oct. 31): Presentations
Week 11 (Nov. 7): Presentations
Week 12 (Nov. 14): Presentations
Week 13 (Nov. 21): Presentations
Week 14 (Dec. 5): Presentations

ACCEPTABLE STUDENT BEHAVIOR: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom.

STUDENT LEARNING OUTCOMES/OBJECTIVES (SLOs)
SLO 1. Describe intellectually stimulating aspects of invertebrate animals. (PLO1)
SLO 2. Critically evaluate scientific literature. (PLO 1, 5)
SLO3. Effectively communicate scientific information in oral and written form. (PLO 2, 5)

PROGRAM LEARNING OUTCOMES
PLO 1. The student will demonstrate a good knowledge base in biological concepts and be able to integrate knowledge with critical thinking skills to become problem solvers. Knowledge base will include: levels of complexity (molecular/cellular through population/communities/ecosystems), biological principles and processes.
PLO 2. Clearly articulate scientific information; provide clear structure and transitions; demonstrate scientific tone, language, and form.
PLO 5. The student will demonstrate preparation for future career and educational goals utilizing the knowledge and training during their academic program.

General Education Core Curriculum Objectives/Outcomes: This course is not included in the general education core curriculum.

ACADEMIC INTEGRITY: Academic integrity is expected of everyone in this course. Any form of academic dishonesty will lead to the student receiving a failing grade for the entire course. Additionally, a Report of Academic Dishonesty form will be submitted to your Dean’s office.

SFA Policy A-9.1 is summarized as follows: Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. Definition of Academic Dishonesty: Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

WITHHELD GRADES (Semester Grades Policy A-54): Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

STUDENTS WITH DISABILITIES: To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, Room 325, 468-3004/468-1004 (TDD), as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodation. For additional information, go to http://www.sfasu.edu/disabilityservices/. Please note that you must visit with me outside of class time concerning your request before I will be able to provide the accommodations described in the notification from ODS.

COURSE REQUIREMENTS
Assignment 1: Preliminary topic choices. Due week 3 at start of class. On week 3 a list of three potential topics is due in writing. Briefly (2-3 sentences) state for each why you think it would make a good choice. Final topics must be cleared by week 4 as appropriate by the instructor. Two students are not allowed to have the same topic, and a first come first serve process may be employed to determine topic selection.
Assignment 2: Annotated bibliography first draft. Due week 6 or 7. For 4 primary articles, an annotated bibliography will be provided by the student. Each bibliographic entry will be followed by a concise summary of the article (1/4–1 page) followed by an account of what aspects will likely be extracted for the presentation. A handout will be given with instructions for formatting bibliographic entries. Exact adherence to this format will be expected. Articles must be submitted to dropbox on D2L/Brightspace with the specified file title format (first author last name_year_title keywords) or a detraction will be made.

Assignment 3: Annotated bibliography final draft. Due on day of presentation. For all sources used in the presentation, a bibliographic entry followed by a concise summary of the article (1/4–1 page) will be presented. Following the summary, an account of aspects extracted for the presentation will be provided. The earlier draft should be updated if needed. Articles must be submitted to described above or a detraction will be made.

Assignment 4: Abstract and outline of presentation. Due in class on day of presentation. A 1/2–1 page summary of the presentation will be provided followed by an outline presented as a hierarchical list of bullet points. One draft may be turned in early for feedback, but this is not a requirement.

Assignment 5: Oral presentation. The presentation will be a novel synthesis of at least 8 primary literature articles concerning an aspect of the natural history of invertebrates combined with a topic of the students choosing. For example, a presentation on spiders and an overview of their biology would not be fitting. However, a presentation on spiders that focused on some element such as silk production and potential biotechnology applications would be ideal. Similarly, an overview of echinoderms would not be a good choice, but one that combined an overview with a particular aspect such as regeneration abilities would be. The synthesis of information should be novel, and not overly rely on a pre-existing source from the Internet or literature. The presentation will be delivered in PowerPoint and be 20-25 minutes long, not including questions from the audience. A detraction will be made for each minute under 20 and each minute over 25. Multiple video clips may be used to support the presentation, but a detraction will be made if they comprise more than three minutes of the allotted time. Materials such as books may be used above and beyond the 8 required research articles. Chapters from edited volumes may be considered primary articles. Review articles are not considered primary literature. Presentations will be graded on organization of content, quality of scientific content (including suitability of articles), subject knowledge, graphics, eye contact and other non-verbal communication, pace, and oral delivery. Presentations will be scheduled by a random draw on the second class meeting. Students who switch to a later date for their presentation will be assessed a 2.5% penalty.

Assignment 6. Peer presentations summaries. Due to dropbox on D2L/Brightspace one week following each presentation. For each presentation other than your own, create a 3/4–1.5 page summary and critical evaluation of each presentation. The first half of the summary should emphasize key points of the presentation. The second half should evaluate positive and negative aspects of the presentation by commenting upon graded aspects such as organization of content, quality of scientific content, subject knowledge, graphics, eye contact and other non-verbal communication, and oral delivery. Grades will be based on thoroughness, organization, and clarity of writing.