Biol 322: BIOLOGY OF MARINE INVERTEBRATES

Jan - Apr 2020 CRN 20336

Lectures: COR B112 Mon & Thu 11:30-12:50 **Laboratory:** Petch 109

Course Instructor: Dr. Louise R. Page
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office hour Fri 1:30pm - 2:30 pm or by arranged appointment
Senior Lab Instructor: Dr. Katy Hind email khind@uvic.ca

LECTURE: This course explores how selected groups of marine invertebrates have responded to challenges imposed by diverse marine environments over the evolutionary history of life on this planet. The result has been an explosion of often ingenious strategies for survival and successful reproduction. Lecture material is organized under themes of adaptation, such as: defensive strategies including transparency and bioluminescence, musculo-skeletal systems including provisions for autotomy, feeding systems, symbioses, reproductive biology, and selected physiological adaptations. A general overview of each theme is given, but the emphasis is on selected studies from the primary research literature. An introductory course in Invertebrate Biology (i.e. Biol. 321 or course equivalent) is a required prerequisite.

Biology 322 does not use a published textbook, although a general Invertebrate Biology textbook will be a valuable reference. In lieu of a textbook, notes supplementing the lecture material will be available on the CourseSpaces site for Biol 322. **However, all material presented in lecture is examinable.**

LABORATORY: The lab emphasizes observations on form, function, and behaviour of live animals. Morphological studies will involve dissections of heavily anaesthetized animals; only species that are very abundant in coastal waters around southern Vancouver Island will be used for this purpose. The lab manual for Biol 322 is available for purchase from the UVic bookstore. Labs begin Jan 15-16 in Petch 109. **It is essential that you attend the 1st lab session to remain registered in the course.**

In brief, the lab will involve four components:

1) **Discussion Groups.** Groups of 4-5 students will discuss a research paper. Each group will submit a single report of written answers to questions about the paper. Student grades will be based on the best 3 of 4 reports. **(marks: 3x3% = 9%)**
2) **Lab Notebook.** Observations made in the laboratory on the functional morphology and behaviour of various marine invertebrates will be recorded in a lab notebook. The notebook will be submitted for grading at the end of lab #10. **(marks: 18%)**
3) **Comparative Anatomical Study.** Students will work in groups of two to study the comparative structure & function of homologous structures in two invertebrates related at taxonomic rank below the level of phylumocTj14.0,tts-2. stru
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ts will work in groups of 4 to prepare an invertebrate ‘hard part’
anning electron microscope. During the last lab period, each
entation (~15 min) describing their results for other students in

(marks: 3%)

Materials for lab:

1. Lab Manual – available for purchase from the UVic Bookstore.
2. Lab Notebook. Soft or hard cover notebook; lined or blank paper. Binders or file folders containing loose pages are unacceptable.
3. Dissecting Kit. Purchase from the UVic Bookstore; should include fine forceps.

Discussion Groups

Discussion groups can be an effective way of developing and practicing critical thinking skills. You will be assigned to a discussion group consisting of 4 individuals. The first 45 minutes of four lab periods will be devoted to a group discussion of an assigned research paper. A link to a pdf copy of this paper from the UVic libraries will be available from the CourseSpaces site for Biol 322. You must read this paper **prior** to your lab and bring it to lab as a hard copy or a digital copy on your laptop or other device. Discussion will focus on assigned questions and your group's responses to these questions will be submitted as a single report (no more than 2 pages) compiled by a designated secretary. The secretary's j

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