BIOL 321: Structure and Evolution of the Bryophytes

Contact: Shona Ellis (shona@ubc.ca)
Credits: 3
Format: 2 hours lecture, 34 hours lab per week
Prerequisites: BIOL 121
Offered: Winter session, term two

Course description:
The primary goal of Biology 321 is to spark interest and appreciation for the miniature world of bryophytes (mosses, liverworts, and hornworts). These three ancient lineages are commonly referred to as nonvascular plants. During this course we will explore their morphology, adaptive biology, and phylogenetics. Numerous field activities will help students become adept in field identification as well as appreciate bryophyte diversity and roles in a number of ecosystems. Vegetation surveys in both a temperate coastal forest and a bog provide students with experience in fieldwork and data collection. Term projects give students an opportunity to investigate a chosen topic in bryology.

Course Objectives:
By the end of this course a student will be able to:
1. Identify the main bryophyte taxa and understand their biology and evolutionary relationships.
2. Identify local species by sight.
3. Use taxonomic keys.
4. Evaluate the ecological roles of bryophytes.
5. Evaluate the relationship between bryophytes and tracheophytes (vascular plants).
6. Compare the different adaptive strategies of bryophytes and tracheophytes.
7. Evaluate the uses of bryophytes (research and economic).
8. Critically evaluate current and past research and literature.
9. Develop microscopy and observational skills.
10. Gain practical experience through self-directed projects.

Grading Scheme:
Quizzes, Assignments, and Participation (10%)
Lecture Midterm (10%)
Collection (10%)
Project/Term Paper (15%)
Presentation (5%)
Lab Final Exam (25%)
Lecture Final Exam (25%)

Links: www.botany.ubc.ca/brypphyte

Additional information:
There will be a number of optional weekend fieldtrips to supplement the course.

Last updated: October 20, 2010