

## BISC 404, Plant Ecology Fall 2014

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**Office Hours:** Thurs 9:30-11, or email me!

**Lab Instructor:** Erin Barley, ebarley@sfu.ca

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**Web page:** <http://www.sfu.ca/biology/courses/bisc404/index.html>

### REVISED Course Schedule

| Date     | Lecture Topic  | Chapt | Lab exercise   |
|----------|--|-------|--|
| Sept. 2  | Why plants are cool/Biomes                                     | 18    | Lab 1 Part I: Competition (setup)  |
| Sept. 4  | Global Diversity and Biogeography                              | 19    | Lab 2 Part I: Inbreeding depression (crosses)  |
| Sept. 9  | Regional Diversity   | 13    | Lab 3: Plant ID and Plant Sampling   |
| Sept. 11 | Community properties   | 9     | Discuss Community Sampling lab   |
| Sept. 16 | Succession   | 12    | Lab 4: Forest Community Sampling: Mount Seymour  |
| Sept. 18 | Communities in Landscapes                                      | 15    |  |
| Sept. 23 | Landscape Ecology  | 16    | Lab 4 Continued: Forest Community Sampling: Mount Seymour                                      |
| Sept. 25 | Writing in Biology   |       |  |
| Sept. 30 | Population Biology   | 5     | Lab 5: Analysis of Forest Community Data   |
| Oct. 2   | Adaptation and Plasticity                                      |       | Lab 2: Inbreeding depression (collect seeds)   |
| Oct. 7   | <b>Midterm 1</b> (to Oct 30)                                   | 6     | <i>Open lab: work on report 1. Instructors in lab to answer questions.</i>                     |
| Oct. 9   | Interactions: Intro  |       |  |
| Oct. 14  | Reproductive strategies<br><b>Report 1 methods/results due</b> | 7     | Lab 6: Pollination Syndromes<br>Lab 2 Part II: Inbreeding (plant seeds)                        |
| Oct. 16  | Life History strategies  | 8     | Lab 8 Exp. 1, Part I: Defense (plant seeds)  |
| Oct. 21  | Invasive Species   |       | Lab 7: Dispersal   |
| Oct. 23  | Herbivory I  | 11    | Lab 8 Exp 2, Part I: Defense (setup)   |
| Oct. 28  | Herbivory II<br><b>Completed Report 1 due</b>                  | 11    | Lab 1 Parts II-III (final harvest, Competition)<br>Lab 8 Exp. 1, Part II: Defense (treatments) |
| Oct. 30  | Competition I  | 10    |  |
| Nov. 4   | <b>Midterm 2 (to Oct 28)</b>                                   |       | Lab 8 Exp. 1, Part III, and Exp. 2, part II: final data collection (Defense)                   |
| Nov. 6   | Competition II   | 10    | Lab 2 Part III: final data collection (Inbreeding)   |
| Nov. 11  | No class: Remembrance Day                                      |       | No Lab: Remembrance Day  |
| Nov. 13  | Lab 1 & 2 Data for Reports!                                    |       |  |
| Nov. 18  | Multitrophic interactions                                      |       | <i>Open Lab: work on report 2. Instructors in lab to answer questions</i>                      |
| Nov. 20  | Agroecosystems I   |       |  |
| Nov. 25  | Agroecosystems II  |       | <i>Open Lab: work on report 2. Instructors in lab to answer questions</i>                      |
| Nov. 27  | Species at Risk, Synthesis;<br><b>Report 2 due</b>             | 21    |  |
| Dec. 9   | <b>FINAL EXAM 8:30-11:30</b>                                   |       |  |

**Distribution of marks:**           **Two midterms, 20% each**  
Final (cumulative) 25%  
Problem solving 10%  
Lab reports 25%

**Text:** Gurevitch, J., S. Scheiner, and G. Fox. 2006. The Ecology of Plants, Second Edition.  
Sinauer & Associates. Highly recommended, but not required.

You may also want to purchase a guide to plant identification. The local standard is:  
Pojar, J. and A. MacKinnon. 1994. Plants of Coastal British Columbia. Lone Pine Press.

**Books on reserve (in addition to the textbook):**

Barbour, M.G., J. H. Burk, W. D. Pitts, F. S. Gilliam, and M. W. Schwartz. 1999. Terrestrial Plant Ecology.  
Addison Wesley Longman.

Crawley, M. J. 1997. Plant ecology. Blackwell Science.

Harper, J. L. 1977. Population biology of plants. Academic Press.

Hausler, S., D. Coates, and J. Mather. 1990. Autecology of common plants in British Columbia: a literature  
review. Canadian Forestry Service.

Klinka, K., V.J. Krajina, A. Ceska, and A.M. Scagel. 1989. Indicator Plants of Coastal British Columbia. UBC  
Press.

Meidinger, D. and J. Pojar. 1991. Ecosystems of British Columbia. B.C. Ministry of Forests.

Ringius, G.S. and R.A. Sims. 1997. Indicator Plants Species of Canadian Forests. Canadian Forest Service,  
Natural Resources Canada Press.

Silvertown J. W. and J. Lovett-Doust 1993. Introduction to plant population biology. Blackwell Science.

**Laboratory exercises**

This course has a large lab component, some of which involves outdoor work. You will be given a lab manual in lecture, which includes background and methods for the labs. We will work together to collect data relevant to addressing particular problems in plant ecology. Collated data from the entire class will be used in the preparation of your lab reports and for discussion. It is essential that you participate fully in the labs, not only for your own understanding, but also for the sake of your classmates. So, please read through the lab manual in advance! In addition, for about half the labs we will be reading and discussing relevant papers from the primary literature. These papers will be posted on the course web page and you are responsible for their content.

Our labs meet rain or shine, so come appropriately dressed for the outdoors. The trips to Mount Seymour may result in a slightly late return to campus, depending on traffic. Also note the “open” labs where attendance is optional (your instructors will be available for part of the lab period to assist you with report writing).

**Writing in Biology**

Plant Ecology is a writing-intensive course. This means you will receive instruction in how to write effectively, as well as feedback on your efforts to help you improve. The main written assignments are two lab reports, but in this course I emphasize solving ecological problems and interpreting data, so some of your assignments will focus on that. The idea is to improve your effectiveness at building written arguments—a transferable skill that should help you in whatever your future may bring!

**SFU’s Code of Academic Integrity: see also <http://www.sfu.ca/policies/gazette/student/s10-01.html>**

All members of the University community share the responsibility for the academic standards and reputation of the University. Academic honesty is a cornerstone of the development and acquisition of knowledge. Academic honesty is a condition of continued membership in the university community. Academic dishonesty, like other forms of dishonesty, includes misrepresentation with intent to deceive or without regard to the source or the accuracy of statements or findings. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University; it is furthermore unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University.