



School of Arts & Science
ENVIRONMENTAL TECHNOLOGY DEPARTMENT
ENVR 229-001
Plant Diversity and Ecology
2008F and 2009W

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

⌘ Please note: this outline will be electronically stored for five (5) years only.
It is strongly recommended students keep this outline for your records.

1. Instructor Information

| | | | | |
|-----|---------------|--|--------------------|--|
| (a) | Instructor: | Dr. DAVID BLUNDON | | |
| (b) | Office Hours: | 12:30 – 2:20 PM Monday and Tuesday 11:30 – 12:20 PM Thursday | | |
| (c) | Location: | Y-304 | | |
| (d) | Phone: | 250-370-3984 | Alternative Phone: | |
| (e) | Email: | blundond@camosun.bc.ca | | |
| (f) | Website: | D2L | | |

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the student will be able to:

1. Use parametric and non-parametric statistics in environmental science.
2. Use logic, critical thinking, and the scientific method to evaluate the appropriate use of statistics with real environmental data.
3. Use sample theory to design monitoring studies.
4. Use a variety of experimental designs to evaluate null hypotheses.
5. Use frequentist and Bayesian analysis with environmental examples.
6. Use a variety of statistical software and evaluate their appropriateness.
7. Use specialized statistical; such as, mark-recapture, mark-resight and catch-effort to estimate the abundance and variability of animals.
8. Use ANOVA, regression and multivariate analysis
9. Describe sample theory and experimental design in the context of environmental science.

3. Required Materials

- Gotelli, N and A. Ellison. 2004. A Primer of Ecological Statistics. Sinauer Associates, Inc., Massachusetts, USA.
- Blundon, D.2009. Lectures and Computer Exercises (available on D2L)

(b) Other

- Programs for Ecological Methodology, Version 5.02 by Krebs, C.J. 1998.
- PC-ORD
- Minitab 2007. Version 15.
- Excel

4. Course Content and Schedule

- Read the textbook: Gotelli, N and A. Ellison. 2004. A Primer of Ecological Statistics. Sinauer Associates, Inc., Massachusetts, USA.
- Lectures comprise the following topics
 - Introduction to Quantitative Analysis
 - Review of Descriptive Statistics
 - Probability
 - Review of Parametric versus Non-Parametric Statistics
 - Mark-Recapture Techniques, Removal Methods, Quadrat Counts
 - Line Transects and Distance Methods
 - Distance Methods and Removal Methods
 - Sampling Designs
 - Experimental Designs
 - Regression*
 - ANOVA
 - Multivariate Analysis
- Computer exercises comprise the following topics
 - Population Estimation:*
 - Peterson, Schnabel & Jolly-Seber Mark-Recapture Sampling Methods
 - Catch Effort Methods for Exploited Populations*
 - Line Intersect Methods
 - Aerial Methods*
 - Maximum Likelihood Resight Method*
 - Descriptive Statistics
 - Sampling: Random, Stratified and Two-Stage
 - Experimental Design: Random and Block
 - ANOVA Analysis
 - Regression Analysis
 - Multivariate Analysis

5. Basis of Student Assessment (Weighting)

- (a) Lecture/Lab Exams - 55%
- | | |
|----------------------|---|
| Midterm Exam I - 15% | (Week 8: Wednesday, February 25: 2 hours) |
| Final Lab Exam – 15% | (Week 13: Tuesday, March 31: 3 hours) |
| Final Exam - 25% | (Week 15: April 14-22: 3 hours) |
- (b) Assignments - 45%
- | | |
|----------------|---------------------|
| 10 assignments | (TBA over 14 weeks) |
|----------------|---------------------|

6. Grading System

Standard Grading System (GPA)

| Percentage | Grade | Description | Grade Point Equivalency |
|------------|-------|---|-------------------------|
| 90-100 | A+ | | 9 |
| 85-89 | A | | 8 |
| 80-84 | A- | | 7 |
| 77-79 | B+ | | 6 |
| 73-76 | B | | 5 |
| 70-72 | B- | | 4 |
| 65-69 | C+ | | 3 |
| 60-64 | C | | 2 |
| 50-59 | D | Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite. | 1 |
| 0-49 | F | Minimum level has not been achieved. | 0 |

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at camosun.ca for information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary Grade | Description |
|-----------------|--|
| I | <i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family. |
| IP | <i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i> |
| CW | <i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement. |

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED