	School of Arts & Science *ENVIRONMENTAL TECHNOLOGY DEPARTMENT* **ENVR 229-001** **Quantitative Assessment** **2007 Fall**

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

Ω *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:	Monday, Tuesday, Wednesday 10:30-11:30 PM Thursday: 12:30-2:30 PM *For an appointment or to leave a message call or email anytime*	
(c)	Location:	F-346A	
(d)	Phone:	370-3465	Alternative Phone:
(e)	Email:	blundond@camosun.bc.ca	
(f)	Website:		

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 a calculator and specialized software to solve statistical problems.
2. Evaluate parametric and non-parametric statistical test results.
3. Describe and compare sampling designs.
4. Describe and compare experimental designs.
5. Identify assumptions and potential violations of specialized analysis.
6. Compare univariate and multivariate analysis of data.
7. Compose sampling and experimental designs for a variety of scenarios.
8. Evaluate sampling and experimental results.
9. Discuss the appropriateness of selected designs and multivariate analysis.
10. Evaluate the results of multivariate analysis.

3. Required Materials

(a)	Texts	• **Bakus, G. 2007. <u>Quantitative Analysis of Marine Biological Communites</u>. John Wiley & Sons, Inc. Hoboken, New Jersey**

(b)	Computer Programs	Available for use in Ewing 102: • **Programs for Ecological Methodology, Version 5.02 by Krebs, C.J. 1998.** • **PC-ORD** • **Minitab 2007. Version 15.**
(c)	Other	• **MATH 216/240 or other statistics text** • **Other suggested and optional reading will be given in class**

4. Course Content and Schedule

(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

LECTURE/:LABORATORY **Tuesday (F-244: 12:30 - 2:20)**
Friday (E-102: 9:30 - 12:20 and 1:30 – 4:20))

PREREQUISITES: ENVR 119, MATH 116/240

COMPUTER PROGRAMS and WORD PROCESSING: Computers are available in Ewing

WEEKLY SCHEDULE: Five hours of lecture and lab
Expect to spend an additional 6 hours a week on this course outside of class time.

ABSENCES:
• **If you should miss a class, you should arrange to borrow notes from another student. You are responsible for all information (including exam dates and changes in course content or emphasis) covered in class.**
• **If you miss an exam you will receive a grade of zero for that exam unless you provide a note from your MD.**

LATE ASSIGNMENTS:
• **If assignments are handed in late they will be marked down accordingly and will be refused if the other student assignments have already been returned.**
• **A late assignment will be assessed at 15% of its graded value for each day it is late!**

LABORATORY INFORMATION:
• *Please comply with the general department policies. These will be outlined in your first lab period.*
Make-up labs are not offered. If you are unable to attend your regularly scheduled lab due to illness, contact the instructor. Lab attendance is compulsory. You will lose 5% of your lab mark for each lab period missed.

Important Dates:
       Sept. 4   **Classes start**
       Oct. 8   **College Closed (Thanksgiving)**
       Nov. 12   **College Closed (Remembrance Day)**
       Dec. 8   **Last day of instruction**
       Dec. 17-22   **Final exam period**

A.   **LECTURE TOPICS:**
• **Introduction to Quantitative Analysis**
• **Review Of Descriptive Statistics**
• **Sampling Designs**
• **Review Of Parametric versus Non-Parametric Statistics**
• **Mark-Recapture Techniques,Removal Methods, Quadrat Counts**
• **Line Transects and Distance Methods**
• **Distance Methods and Removal Methods**
• **Review of ANOVA**
• **Community Analysis**
• **Similarity Coefficients and Species Diversity Measures**
• **Non-Parametric Statistics**
• **Experimental Designs**

B.   **LABORATORY TOPICS AND EXERCISES:**
• **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
- **Sampling: Random, Stratified and Two-Stage**
- **Experimental Design: Random and Block**
- **ANOVA Analysis**
- **Regression Analysis**
- **Community Analysis**
- **Similarity Coefficients and Species Diversity Measures**

5. Basis of Student Assessment (Weighting)
(Should be linked directly to learning outcomes.)

(a)	Assignments	60%- 9 assignments
(b)	Quizzes	
(c)	Exams	Lecture- 40% • Midterm Exam-15% (Week 8: Tuesday, October 23: 2 hours) • Final Exam- 25% (Week 15: Dec. 17-23: 3 hours)
(d)	Other (eg, Attendance, Project, Group Work)	

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

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	*Incomplete*: 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	*In progress*: 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. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* 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