C A M O S U N C O L L E G E

ENVR 219: QUANTITATIVE ECOLOGY

Course Information – Winter 2003

INSTRUCTOR: **Dr. DAVID BLUNDON**
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OFFICE HOURS: Monday: 9:30 – 10:20 AM & 12:30 – 1:20 PM
Wednesday: 1:30 – 2:30 PM
Thursday: 9:30 – 10:20 AM & 12:30 - 1:20 PM

For an appointment or to leave a message call or email anytime.

LECTURE: Monday (F-334: 10:30 - 12:20 PM)
LABORATORY: Friday (E-103: 10:30 - 12:20 PM)

PREREQUISITES: BIOL 224 & 228, ENVR 112, MATH 240

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

COURSE TEXTS (Available for purchase in the College Bookstore):

- Krebs, C.J. 1998. Ecological Methodology 2nd Edition. Addison Wesley Longman, Menlo Park, CA

COMPUTER PROGRAMS: available for use in Ewing 103

- Programs for Ecological Methodology, Version 5.02 by Krebs, C.J. 1998.

ADDITIONAL REFERENCE MATERIAL:

- MATH 240 text
- Other suggested and optional reading will be given in class.

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 0% unless you provide a note from an MD.

LATE ASSIGNMENTS:

- A late assignment will be assessed at 15% of its graded value for each day it is late!
- A grade of 0% will be assigned if that assignment has already been returned to the class.

LABORATORY INFORMATION:

- *Please comply with the general computer lab 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 who will try to schedule you into another lab section during the same week. Lab attendance is compulsory. You will lose 5% of your total lab mark for each lab period missed.*

MARK DISTRIBUTION:

Lecture - 50%

- **Midterm Exam - 20%** **(Week 8: Monday, February 24: 2 hours)**
- **Final Exam - 30%** **(Week 15: April 14 - 24: 3 hours)**

Laboratory - 50%

- **Lab Assignments** **(11 assignments, one each week)**

LETTERS GRADES:

A+ 95 – 100%	B+ 80 - 84%	C+ 65 - 69%	
A 90 – 94%	B 75 - 79%	C 60 - 64%	F 0 - 49%
A- 85 – 89%	B- 70 - 74%	D 50 - 59%	

IMPORTANT DATES:

- **January 9: First Day of Classes**
- **February 13 - 14: Reading Break**
- **March 10: Last day to withdraw without a F grade**
- **April 10: Last day of class**
- **April 14 - 25: Final Exam Scheduled**

A. LECTURE TOPICS:

- **Introduction to Quantitative Ecology: Chapter 1**
- **Review Of Descriptive Statistics**
- **Review Of Parametric versus Non-Parametric Statistics**
- **Mark-Recapture Techniques: Chapter 2**
- **Removal Methods: Chapter 3**
- **Quadrat Counts: Chapter 4**
- **Line Transects and Distance Methods: Chapter 5**
- **Distance Methods and Removal Methods: Chapter 4**
- **Sample Size Determination: Chapter 7**
- **Sampling Designs: Chapter 8**
- **Experimental Designs: Chapter 10**
- **Review of ANOVA: Chapter 10**
- **Similarity Coefficients: Chapter 11**
- **Species Diversity Measures: Chapter 12**
- **Non-Parametric Statistics**

B. LABORATORY TOPICS AND EXERCISES:

- **EXCEL Data Entry: Germination & Establishment in an Annual and a Perennial Grass**
- **EXCEL Formula Creation & Statistical Functions: Germination & Establishment Expt.**
- **EXCEL and MINITAB: Parametric and Non-Parametric Statistics**
- **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**
- **Sampliong: Random, Stratified and Two-Stage**
- **Experimental Design: Random and Block**
- **Regression Analysis**
- **Similarity Coefficients**
- **Species Diversity Measures**