

COURSE INFORMATION

LECTURES -- Mondays through Fridays, 8:30 - 11:30 AM.

OFFICE HOURS -- Mondays through Thursdays, 7:30 PM, at the Housing Site.

TEXT-- *Ecology*, 5th edition (2001), by C. J Krebs. Available at Pymatuning Laboratory of Ecology.

COURSE OVERVIEW

This course provides an introduction to the study of interactions between organisms and their environments, with an emphasis on the factors that affect organismal distribution, abundance, and co-occurrence. The first part of the course deals with environmental conditions, their effects on the behavior, survival, and reproduction of organisms, and the basic properties of populations. The second portion addresses interactions within and between populations and how these interactions relate to population density. The third portion of the course deals with communities, how interactions among populations affect the flow of energy and matter in communities, how communities change through time, and how communities relate to ecosystem function. The course employs both qualitative and quantitative models, and it emphasizes interrelationships between evolutionary and ecological processes.

EXAMINATIONS

There will be three midterm examinations and a comprehensive final examination, each worth 100 points. The exam dates are given on the course schedule.

The exams will include terms, definitions, diagrams, tables, graphs, word problems, and essays. The questions will be based primarily on the material presented in the lectures but will include similar material from related sections of the text as well.

The only valid reasons for missing an exam are under exceptional circumstances of illness, severe personal trauma, or (rarely) University business. If you have such an excuse, please bring a signed note from a doctor (illness), parent or other family member (personal trauma), or a University official (University business). If you miss an exam and have a valid excuse, your final grade will be based on your remaining exams. If you miss an exam without a valid excuse, you will receive a score of "0" for that exam. If you miss more than one exam, regardless of the reasons, you must meet with the instructor to consider dropping the course.

GRADING

Your letter grade will be based on the points you earn on your three midterm exams and on the final. These points will be summed and expressed as a percentage of total points possible during the term (400). The resulting percentage will be used to determine the final grade you have earned. For example, if your three midterm scores are, 75, 80, and 80, and your final exam score is 85, your points sum to 320 out of 400 points, or 80.0%. The following scale will be used to convert your percentage into a letter grade:

| | | |
|------------------|-----------------|------------------|
| A+ 97.5% and up | A 92.5% - 97.4% | A- 90.0% - 92.4% |
| B+ 87.5% - 89.9% | B 82.5% - 87.4% | B- 80.0% - 82.4% |
| C+ 77.5% - 79.9% | C 72.5% - 77.4% | C- 70.0% - 72.4% |
| D+ 67.5% - 69.9% | D 62.5% - 67.4% | D- 60.0% - 62.4% |

Percentages below 60.0% earn a grade of "F". If the average for an exam is below 75%, the class average will be subtracted from 75%, and the resulting value will be added to each student's exam score. The adjusted score will then be used in calculating your semester percentage.

LECTURE SCHEDULE

| <u>date</u> | <u>topic</u> | <u>chapters from text</u> |
|-------------|---|---------------------------|
| May 14 | Introduction; Environments, Populations, and Natural Selection | 1 - 2 |
| | Conditions and Resources in Relation to Distribution and Abundance | -- |
| | Analysis of Distributions; Dispersal, Behavior, Biotic Interactions | 3 - 6 |
| 15 | Analysis of Distributions; Dispersal, Behavior, Biotic Interactions (continued) | 3 - 6 |
| | Physical and Chemical Factors | 7 |
| | Population Parameters and Basic Demographic Techniques | 9 - 10 |
| 16 | Population Parameters and Basic Demographic Techniques (continued) | 9 - 10 |
| | Population Growth | 11 |
| | Competition | 12 |
| 17 | Competition (continued) | 12 |
| | Predation | 13 |
| 18 | MIDTERM EXAMINATION | |
| | Predation (continued) | 13 |
| 21 | Herbivory; Parasitism and Disease; Mutualism | 14-15 |
| | Natural Regulation of Populations | 16 |
| | Applied Problems in Ecology | 17 - 19 |
| 22 | Applied Problems in Ecology (continued) | 17 - 19 |
| | The Nature and Parameters of Communities | 20 |
| | Descriptive Analysis of Communities | handout |
| 23 | Community Structure and Community Change | 21 - 22 |
| | Trophic Structure in Equilibrial Communities | 23 |
| 24 | MIDTERM EXAMINATION | |
| | Disturbance and Non-equilibrial Communities | 24 |
| 25 | Island Biogeography | 24 |

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|--------|---|-----------|
| | Concept of an Ecosystem | handout |
| 28 | University Holiday (Memorial Day) | |
| 29 | Ecosystem Energetics | 25 and 26 |
| 30 | Biogeochemical Cycles | 27 |
| | Patterns of Species Richness | 22 |
| 31 | Human Ecology | handout |
| | Review | |
| June 1 | MIDTERM EXAMINATION and FINAL EXAMINATION | |