BIOL 3069 POPULATION ECOLOGY FALL

CLASSES: LSC 3655 TUES/THURS 8:30-10:00 a.m.

INSTRUCTOR: S.J. Walde
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TEXT: A primer of ecology. Nicholas J. Gottelli. Fourth edition, Sinauer Associates, Inc.

COURSE COMPONENTS:

EXAMS	
Midterm Exam	10
Final exam (scheduled)	30
ESSAY ASSIGNMENTS	40
TUTORIALS	12
FIVE-MINUTE QUIZZES	8

TUTORIALS: Tutorial sessions occur during class time, and involve "hands-on" work with data and population models.

ESSAY ASSIGNMENTS: Written assignments that ask the student to use the primary scientific literature to write essay on topics related to, but not identical with, the lecture material.

FIVE-MINUTE QUIZZES: Short (one question) quizzes

EXAMS: One in-class midterm exam and one scheduled final exam, covering lectures, tutorial and assigned reading materials.

Students with disabilities are encouraged to register as quickly as possible at the Student Accessibility Services if they want to receive academic accommodations. To do so please phone 494- 2836, e-mail access@dal.ca, drop in at the Killam, G28 or visit our website at "www.studentaccessibility.dal.ca".

General Information for BIOL 3069

Lectures: The aim of this class is for students to begin to appreciate how population ecology is used in real world situations, and in particular, how theory can be used to interpret the dynamics of real populations and to inform management decisions. In each of the major sections, we go over relevant theory, and then spend time discussing particular case studies in the light of that theory. Some of these systems have been studied for decades, and we are beginning to have a pretty good understanding of the key determinants of their dynamics. In addition to understanding the dynamics of particular populations, examination of well-studied cases allows one to see how scientific understanding changes (progresses) over time as different approaches are used to examine the system. Lecture outlines will be posted on OWL, but attending lectures is essential for a good understanding of the material. Sections may vary from year to year, but usually include the following:

1. Intra- and inter-specific competition and the dynamics of fish populations
2. Trophic interactions and small mammal cycles
3. Outbreaks of forest insect pests
4. The dynamics of disease (plague)
5. Large herbivore dynamics - the African elephant

Tutorials: Hands-on manipulation usually helps students to get a better feeling for why models produce the patterns they do. The tutorials will focus on a few models and techniques (also presented in class), and have instructions that will allow you to see the range of dynamics the model can produce, and to see how the various parameters influence the dynamics. Some of the tutorial exercises require the use of POPULUS software, others use EXCEL spreadsheets and still others can be done with a calculator. Either the instructor or a TA will be present during the scheduled tutorial hours.

Five minute quizzes: Quizzes will be given at the beginning of class on lecture material or assigned readings.

Essay assignments: Students write essays on assigned topics using the primary scientific literature. Essays topics vary from year to year and usually involve case studies not covered in lecture. The objective of the essays is to apply ecological theory to novel, but related systems.

Exams: There will be one mid-term and one scheduled final exam. Exams are long answer (mini-essay type or calculations with interpretation). The final exam will allow for some choice of questions. Sample exams will be provided.

Grading scale: The Faculty of Science default grade scale will be used:

A+	90-100
A	85-89.9
A-	80-84.9
B+	75-79.9
B	70-74.9
B-	65-69.9
C+	62-64.9
C	58-61.9
C-	55-57.9
D	50-54.9
F	<50