# WILDLIFE BIOLOGY-BISC 419

The goal of the course is to present and discuss general biological principles relevant to the management of wildlife populations. Wildlife will be defined broadly to include both game and non-game vertebrate, generally homeothermic, free-living species of commercial, recreational or educational interest to humans. Wildlife management, which is the art of finding compromises between competing human interests that involve wildlife, will not be covered. In lectures general principles will be presented and elucidated using case studies taken from the literature. In the lab sessions we will first learn about the characteristics and diversity of mammals and birds, with an emphasis on local fauna. This will be followed by a more in-depth study of avian anatomy, and depending on our luck, an exposé of avian parasites. Finally, there will be a term paper (more details later) and a very interesting final exam.

Instructor.- Dr. George A. Lozano
Office.- N/A
Phone.- 294-1340
Email.-lozano@sfu.ca

Teaching Assistant.- Brent Gurd
Office.- the Cooke lab

Lectures.- Tue and Thu 12:30 AQ3005
Labs.- Tue, Wed, and Thu 13:30 (but one of them will be cancelled)

Textbook.- None, but it would be useful to get bird and mammal field guides.

Final Exam.- April 18, 2000.

## Grading

| | |
|---|---|
| Lab Exam | 20% |
| Paper | 20% |
| Midterm Exam | 30% |
| Final Exam | 30% |

## Labs

January

| | |
|---|---|
| 11 | lab 1.- Mammalia I |
| 18 | lab 2.- Mammalia II |
| 25 | lab 3.- Aves I |

February

| | |
|---|---|
| 1 | lab 4.- Aves II |
| 8 | lab 5.- Aves III |
| 15 | Labs cancelled |
| 22 | lab 6.- Bird Anatomy and parasites I |
| 29 | lab 7.- Bird Anatomy and parasites II |

March

| | |
|---|---|
| 7 | lab 9.- Field Trip |
| 14 | lab 10.- Work on your paper |

| | |
|---|---|
| 21 | LAB EXAM in during class hour, on Thursday!! |
| 28 | lab 12. – Have fun and prepare for the end |
| April | |
| 4 | lab 13.- Have fun and prepare for the end |

**Topics to Include**

I will attempt to cover the following topics, in more or less this order.

**Energy requirements**
- -Maintenance
  - -Metabolic rates (basal, resting, field)
  - -Physical space
  - -Cover and refugia
- -Growth
- -Reproduction
- -Digestive anatomy and physiology

**Physiological condition indices** (Dr. Chris Guglielmo)

**Energy Transfer**
- Food chains
- Trophic levels
- Stable isotopes

**Interactions 1**.- Predation

**Interactions 2**.-Competition

**Interactions 3**.- Parasitism, Disease and Immunity

**Statistics** (very basic, just so I know where we stand)

**Population Biology**
- -life-history tables
- -death, birth, migration, emigration
- -dispersal (natal and breeding)
- -censusing techniques
- -additive vs. compensatory mortality
- -maximum and optimum yields

**Island biogeography**

**Seabird conservation** (Dr. Doug Bertram)