



COURSE OUTLINE

BIOL 225

ORNITHOLOGY: An Introduction to the Biology of Birds

**HOURS 45
3 CREDITS**

PREPARED BY: Katie Aitken DATE: Oct 15, 2008
, Instructor

APPROVED BY: Shelagh Rowles DATE: _____
, Dean

YUKON COLLEGE

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Course Outline prepared by Katie Aitken , OCTOBER 15, 2008.

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DIVISION OF APPLIED SCIENCE AND MANAGEMENT
BIOL 225
3-Credit Course
Winter, 2009

ORNITHOLOGY: AN INTRODUCTION TO THE BIOLOGY OF BIRDS

INSTRUCTOR: Dr. Katie Aitken
OFFICE HOURS: After class or by appointment
OFFICE LOCATION: TBA
TELEPHONE/E-MAIL: Phone: TBA/ Email: kaitken@interchange.ubc.ca
FAX: TBA

**COURSE OFFERING
DAYS & TIMES:** Tuesdays, 7-10 pm

COURSE DESCRIPTION

This second-year course will provide a practical introduction to the subject of ornithology, the biology of birds. In one three-hour combined lecture and lab per week, students will learn about 1) the evolution of birds and the incredible array of avian morphological, physiological, and behavioral adaptations, 2) current research and issues in avian ecology and conservation, 3) methods used by researchers in the field of avian biology, and 4) identification of birds by sight and sound, with an emphasis on species found in the Yukon.

LEARNING OUTCOMES:

On successful completion of this course, students will be able to

- 1) Explain the behavioural, morphological, and physiological characteristics that distinguish the Class Aves from other animal taxa.
- 2) Identify and understand general themes in avian ecology and the conservation issues affecting Yukon and other northern bird species.
- 3) Identify most Yukon bird species by sight and/or sound, to at least the family level.
- 4) Conduct basic data analyses and summaries, present the results of those analyses in a scientific or technical paper, and understand the style, content and format of scientific writing.

COURSE FORMAT (3-0)

The course will be structured as one three-hour combined lecture and experiential learning per week. The first hour of each class session will include a lecture covering general topics in avian biology, and the remaining two hours will be an activity session that will expand on the lecture topic. Students will examine study skins and specimens that illustrate points from the lecture, and learn practical skills related to avian biology and research. This format may vary slightly from week to week, depending on the material to be covered.

PREREQUISITES:

BIOL 101 and 102 (or equivalent), or permission of the instructor.

COURSE REQUIREMENTS/EVALUATION:

Attendance and Participation

Attendance is mandatory. A student may be dismissed from a course if more than 10% of the scheduled contact hours are missed in any one course. Dismissal from a course may result in loss of full-time status and loss of sponsorship funding.

There will be three Saturday or Sunday field trips during the course, to local birding “hot spots”. Attendance is required at AT LEAST one of these. These will occur between late February and early April (exact dates TBA).

Assignments

Assignments will focus on the development of skills used in avian research, including data collection, conducting basic data analyses and summaries, and scientific communication. Students will complete two major assignments during the course*:

- 1) a written and oral account of the life history and ecology of a Yukon bird species
 - 2) a research project in which students will collect, analyze and summarize of a simple set of bird abundance data.
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- 1) **SPECIES ACCOUNT AND PRESENTATION:** Students will write a 5-page paper describing the life history of a Yukon bird species and the conservation and management issues affecting that species in the Yukon and North America. The paper should be in the format of a species account (this will be discussed in class), and include references to Yukon or northern research, where possible. Papers will be due during class, the week of February 2. Students will also present a 10-minute talk summarizing a scientific article (from a peer-reviewed journal) on some aspect of the life history or conservation status of their chosen species. The presentation should focus on a study conducted in the Yukon or elsewhere in northern Canada or the boreal forest. Presentations should consist primarily of PowerPoint slides but may also include other audiovisual aids. Presentations will be evaluated on both

content and style. Presentations will take place during the lab portion of the class during the week of February 9.

- 2) **RESEARCH PROJECT:** Throughout the term, students will collect bird abundance data, which will be analyzed and summarized, and presented as a research paper. We will discuss the logistics of the data collection at the start of the term but it could include daily counts of birds at a backyard feeder, weekly counts of ravens at the local dump, or many other possibilities. Students will learn to record observations and other information in a field notebook, and at least one class session will be devoted to entering and organizing data in a spreadsheet, making simple graphs and tables summarizing the data, and performing basic statistical analyses. Students will present the results of their study in a 12 minute talk, as well as in a short scientific paper, formatted in the style of the journal *The Auk* and including an Introduction, Methods, Results (with at least one table and one figure), Discussion, and References. Presentations will take place during class the week of March 30. The paper will be due at the start of class the week of April 6.

*NOTE: Details of these assignments are subject to change prior to the start of term.

Mid-term Exam

There will be one mid-term exam, during class time, the week of February 16. The exam will cover topics from lecture and lab portions of the class, as well as material from student Species Account presentations the previous week.

Final Examination

The final examination will be held at the end of term, during the scheduled College exam period. It will cover lecture and lab material from the entire course.

Evaluation

Species account – written	10%
Species account – presentation	10%
Research project - presentation	10%
Research project – written	15%
Participation (field trips, lectures/labs)	5%
Mid-term Exam	20%
Final Exam	30%

Plagiarism

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to standard procedures (APA). The resubmission of a paper for which you have previously received credit is considered a form of plagiarism.

Plagiarism is academic dishonesty, a serious academic offence, and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it can also result in dismissal from the college. And do not underestimate the impact such a situation will have on your reputation.

REQUIRED TEXTBOOKS/MATERIALS:

1) The only required text for the course is a field guide of your choice containing birds found in western Canada. Please bring this to all class sessions. Both local bookstores should have a good selection of bird guides in stock or available to order, or you can order one online (e.g. Chapters.ca, Amazon.ca, Wild Birds Unlimited).

An excellent choice for the Yukon is:

National Geographic Society. 2006. Field Guide to Birds of North America – 5th Edition. National Geographic Society, Washington, D.C.

Other good options are:

Sibley, David. A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, New York.

Peterson, Roger Tory. 2001. A Field Guide to Western Birds. Houghton Mifflin, New York.

2) Not required but recommended if you plan to continue in ornithology/wildlife biology/zoology/ecology:

Gill, Frank B. 2007. Ornithology 3rd edition. W.H. Freeman and Company, New York.

This will be placed on reserve in the library and I will make copies of any sections that are required reading.

3) The most important piece of equipment for studying birds in the wild is a pair of binoculars. Students will need a pair of binoculars when conducting their research project and for field trips. I recommend 7x35, 8x42 or 10x42 (the first number refers to the magnification, while the second number refers to the width of the outer lens). Avoid binoculars with less than 7x or more than 10x magnification; also avoid auto-focus binoculars. If you're unsure what to buy, you can wait until the first week of class and talk to the instructor.

TENTATIVE CLASS SCHEDULE

(subject to change prior to start of classes)

WEEK OF:	Lecture/Lab Topics
Jan 5	Origins of Birds: Evolution, Taxonomy and Systematics; Introduction to Bird Identification
Jan 12	Feathers and Flight
Jan 19	Life in the North
Jan 26	Feeding and Digestion
Feb 2	Social Behaviour
Feb 9	Student presentations
Feb 16	Mid-term Exam (first hour of class, approx.); Vocalization
Feb 23	Mate Choice & Breeding Systems; Introduction to the Scientific Method and Hypothesis Testing
Mar 2	Reproduction & Parental Care
Mar 9	Reading Week
Mar 16	Demographics and Population Biology; Introduction to Data Management and Analysis
Mar 23	Community Ecology
Mar 30	Student research project presentations
Apr 6	Avian Conservation Issues in the North