REN R 401 / BIOL 225

NORTHERN AVIAN ECOLOGY / INTRODUCTION TO ORNITHOLOGY

In Winter 2027, BIOL 225, Introduction to Ornithology, is being offered at Yukon University concurrent with the University of Alberta's REN R 401, Northern Avian Ecology, as part of the Northern Environmental and Conservation Sciences, B.Sc. Program. All students registered in BIOL 225 or REN R 401 must adhere to requirements outlined in this course syllabus. University of Alberta students must also be aware of, and adhere to, the University's Code of Student Behaviour, referenced in the outline; Yukon University students must be aware of, and adhere to, Yukon University's Academic Regulations, also referenced in the outline.

INSTRUCTOR:	Kathryn Aitken, Ph.D. Associate Professor/Coordinator, Northern Environmental and Conservation Sciences Program, Yukon University and Adjunct Professor, Dept. of Renewable Resources, U of Alberta
OFFICE HOURS:	TBD (or by appointment)
OFFICE LOCATION:	A2509
TELEPHONE:	668-8866
E-MAIL:	kaitken@yukonu.ca

CLASS DAYS & TIMES:	Mondays and Wednesdays, 10:30-11:50 am
CLASS LOCATION:	Mondays and most Wednesdays in A2603 (some Wednesdays in the Biology lab A2805)

COURSE DESCRIPTION

This course provides a practical introduction to the subject of ornithology, the biology of birds. Students will learn about 1) the evolution of birds and the incredible array of avian morphological, physiological, and behavioural 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.

COURSE REQUIREMENTS

For students taking the course as BIOL 225:
Prerequisite(s): BIOL 101, or equivalent first-year biology course, or permission of the instructor.

For students taking the course as REN R 401B: Registration in Yukon University/University of Alberta B.Sc. in Environmental and Conservation Sciences degree program, and successful completion of U of Alberta BIOL 108, or YukonU BIOL 101, or an equivalent first-year biology course, or permission of an ENCS Program Advisor.

EQUIVALENCY OR TRANSFERABILITY

Receiving institutions determine course transferability. Find further information at: https://www.yukonu.ca/admissions/transfer-credit.

Students in the B.Sc. ENCS program should contact an ENCS advisor if they have questions about equivalency or transferability of this course.

LEARNING OUTCOMES

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

- Explain the behavioural, morphological, and physiological characteristics that distinguish the Class Aves from other animal taxa.
- Identify and understand general themes in avian ecology and the conservation issues affecting Yukon and other northern bird species.
- Identify 67 Yukon bird species by sight and/or sound and know the distinguishing characteristics of 11 bird orders and 25 bird families.

COURSE FORMAT

Delivery format

The course consists of two 1.5-hour lectures per week. Class sessions will include a mixture of 1) lectures covering general theoretical topics in avian biology, and 2) lab-based activity sessions in which students will examine study skins and specimens that illustrate points from the lectures. Lab sessions will be held in the Biology lab (A2805).

Weekly breakdown of instructional hours

There will be three hours of in-person lectures/labs per week, delivered as two 1.5-hour sessions. Additional reading and other supplementary material will be posted on the class site on Moodle. Students should expect to spend a minimum of 1-1.5 hours outside of class for every 1 hour of lecture time. Therefore, this course will require approximately 3-5 hours per week of homework, review, and additional reading, outside of class time, for a total of about 6-8 hours per week for the course. The time required will vary by individual.

EVALUATION

The course grade will be determined as follows:

Students enrolled in the course as BIOL 225:

	Percent
eBird checklists (submitted throughout term)	10%
Status reports (2 @ 15% each) (due Feb. 8 and Mar. 31)	30%
Midterm exam (Feb. 17)	30%
Final exam (TENTATIVE date April 14, 9-12 pm, during YukonU exam period)	30%
Total	100%

Students enrolled in the course as RENR 401B:

	Percent
eBird checklists (submitted throughout term)	10%
Research project (outline due by Jan. 25; presentation and paper due Apr. 7 – presentation in class, paper by 11:59 pm)	30%
Midterm exam (Feb. 17)	30%
Final exam (TENTATIVE date April 14, 9-12 pm, during YukonU exam period)	30%
Total	100%

Assignments

All students (both BIOL 225 and REN R 401B):

eBird checklists (10% of total course grade):

Using a free eBird (eBird.org) account that you will set up at the start of term (if you don't already have one), you will submit regular checklists of birds you have identified during

your independent birding activities. A checklist is a list of the bird species and numbers encountered during a single bout of birding – this can be a formal bird walk, birds you see/hear while walking your dog or cross-country skiing, or even "incidental" observations you make while engaged in other activities (driving, cutting firewood, glancing at the bird feeder outside your window while making breakfast, etc.). When you enter your checklists in eBird, you can email a copy to yourself. You can then submit that copy to the course instructor. You must submit a minimum of 10 checklists over the course of the term, including at least one checklist during the Great Backyard Bird Count between Feb. 12-15, 2027 (https://birdcount.org/).

BIOL 225 students ONLY:

Status reports (2 x 15% each; 30% of total course grade):

Students taking the course as BIOL 225 will write two short reports (1-2 pages each) detailing current population status, trends, and conservation/management concerns for species from the class bird list. Students will be randomly assigned their species at the start of the course. Each student will be assigned one non-passerine species and one passerine species. Reports for the non-passerine species will be due by Feb. 8 and reports for the passerine species will be due by Mar. 31. Details on report format will be provided on the class site on Moodle at the start of the term. Reports will be uploaded to the class site so that they are accessible to other students in the course.

REN R 401B students ONLY:

Research project (30% of total course grade):

Students taking the course as REN R 401B will conduct a research project using nest cams, feeder cams, or other publicly accessible wildlife cameras online, or other online data sources. Students will collect and analyse observational data OR they will use data from online sources such as eBird, Breeding Bird Survey, NestWatch, or others, to examine a question related to behaviour, foraging, species diversity, or parental care. Students will present their results as a 12-minute conference-style research presentation, and as a scientific research paper. Detailed guidelines and instructions for the research project will be distributed at the start of the term. The project will be worth 30% of the total course grade and will include three components: 1) project outline, due Jan. 25, 2) research presentation, in class Apr. 7, and 3) final paper due Apr. 7.

Exams

There will be one midterm exam (30% of course grade) and one comprehensive final exam (30% of course grade). The midterm exam will be held during class time on Feb. 17. The

final examination will be held at the end of term, during the scheduled Yukon University exam period (the tentative date is Weds. Apr. 14, 9 am - 12 pm; YukonU final exam schedule subject to change during the term with the final date to be announced early in the term). Exams will cover lecture and lab material, as well as bird identification.

Due Dates and Late Assignments

Unless otherwise specified, assignments are due by 11:59 pm Yukon time on the date that they are due. Late assignments will lose 5% of their mark per day that they are late unless an extension is approved by the instructor in advance.

Assignment of grades

The total numerical score will be converted to a grade on Yukon University's letter grading system:

Letter grade	Percent
A+	95-100
A	86-94
A-	80-85
B+	75-79
B	70-74
B-	65-69
C+	62-64
C	58-61
C-	55-57
D	50-54
F	0-49

COURSE WITHDRAWAL INFORMATION

Students registered in BIOL 225 should refer to the YukonU website for important dates.

Students registered in RENR 401B should refer to the UAlberta calendar for important dates (calendar.ualberta.ca).

TEXTBOOKS AND LEARNING MATERIALS

Books:
The only **required** text for the course is a **field guide** of your choice containing birds found

in northern Canada. 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. 2017. Field Guide to Birds of North America – 7th Edition. National Geographic Society, Washington, D.C. ISBN-13: 978-1426218354. Guides by Sibley and by Peterson are also good choices.

If you prefer an electronic option, there are some excellent bird guide apps available for your smartphone or other devices. My favourite is the Sibley Birds V2 app (https://www.sibleyguides.com/product/sibley-birds-v2-app/), which is available for iOS, Android, and other platforms.

A useful app for birders is Merlin Bird ID from Cornell Lab of Ornithology (https://merlin.allaboutbirds.org/). It's available for iOS and Android. Note that this doesn't replace the requirement for a field guide, but it can be a useful supplement when learning birds.

Not required but good resources if you plan to continue in ornithology/wildlife biology/zoology/ecology:

1. Cornell Lab of Ornithology. 2016. Handbook of Bird Biology, 3rd edition. Lovette IJ, Fitzpatrick JW, editors. Wiley-Blackwell. ISBN-13: 978-1118291054
2. Gill FB, Prum RO. 2019. Ornithology, 4th edition. W.H. Freeman and Company, New York. ISBN: 9781464184369.

Binoculars:

The most important piece of equipment for studying birds in the wild is a pair of binoculars. Students will need a pair of binoculars for compiling their bird lists. I recommend 7x35 or 8x42 (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.

Field notebook:

Students will require a field notebook in which to keep notes on field observations. I recommend a 3x5, 4x6, or 5x7 ruled notebook; a particularly good choice is a "Rite-in-the-Rain" brand notebook with waterproof paper.

eBird account (free):

Students must register for a (free) account at eBird.org (https://ebird.org/home; click on Create Account and follow the instructions). A portion of the course mark will be based on eBird "checklists" that the student submits over the course of the term. Checklists can be entered directly on the website at ebird.org, or via the eBird app (available for iOS and Android).

COURSE WEBSITE

Material for the course will be available on the BIOL 225/RENR 401B class site on Yukon University's Moodle system (moodle.yukonu.ca). Lecture slides, lab handouts, announcements, reading, and other material will be available there for download or viewing. Additional resources are available at: https://sites.google.com/site/kehaitken/biol-225.

All students must have a valid Yukon University student computing account. Information is available here: https://www.yukonu.ca/student-life/technical-resources (scroll down to the section "Accessing your Office 365 & Moodle account"). Note that YukonU students can download for free the full suite of Microsoft Office applications (Word, Excel, PowerPoint, OneNote, Outlook) and other internet-based services (OneDrive, etc.). See information at the YukonU Technical Resources web page linked above.

ACADEMIC INTEGRITY

Yukon University Academic Standards and Regulations

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to YukonU Academic Regulations & Procedures for further details about academic standing and student rights and responsibilities.

University of Alberta Academic Integrity and Code of Student Behaviour

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students at the University of Alberta are subject to the Code of Student Behaviour, as

outlined at:
https://www.ualberta.ca/en/governance/resources/policies-standards-and-codes-of-conduct/code-of-student-behaviour.html Please familiarize yourself with it and ensure that you do not participate in any inappropriate behavior as defined by the Code. Key components of the code include the following statements.

30.3.2(1) No Student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

30.3.2(2) c. No Student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.

USE OF AI SOFTWARE

While ChatGPT and similar artificial intelligence applications can be useful tools that can provide a starting point in your writing, they are not an appropriate substitution for learning to write and think critically on your own. Copying the output from Chat GPT or other AI applications and submitting this output as your own written work will be considered plagiarism. Furthermore, appropriate referencing is expected in submitted work. References to primary, peer reviewed scientific sources must be included in your work, in Council of Science Editors (CSE) format.

PROFESSIONALISM AND CLASSROOM RULES OF ENGAGEMENT

Students are expected to attend all lectures and labs, be engaged and courteous in all course activities, and to be on time for class. Please do not use cellular phones during class. Laptops are permitted for note taking and in-class work; however, please do not use laptops in class for non-class-related activities.

RECORDING OF LECTURES, LABS, ETC.

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Please note that some classes may be recorded using web conferencing software, and links to recordings may be posted on the class website.

ACCESSIBILITY AND ACADEMIC ACCOMMODATION

Yukon University is committed to providing a positive, supportive, and barrier-free academic environment for all its students. Students experiencing barriers to full participation due to a visible or hidden disability (including hearing, vision, mobility, learning disability, mental health, chronic or temporary medical condition), should contact Accessibility Services (https://www.yukonu.ca/student-life/learning-matters/accessibility-services) for resources or to arrange academic accommodations: access@yukonu.ca.

TOPICS:

- Introduction to Class Aves
- Orders and Families of birds
- Introduction to bird identification (sight and sound)
- Origin of birds
- Feathers and flight
- Life in the North
- Avian physiology (respiration, circulation, feeding, and digestion)
- Senses, brains, and intelligence
- Vocalization
- Social and foraging behavior
- Mate choice and breeding systems
- Reproduction (bird sex; nests and incubation; parents and their offspring)
- Avian conservation issues in the North and elsewhere