REN R 401B / BIOL 225

NORTHERN AVIAN ECOLOGY / INTRODUCTION TO ORNITHOLOGY

In Winter 2021, BIOL 225, Introduction to Ornithology, is being offered at Yukon University concurrent with the University of Alberta's REN R 401B, Northern Avian Ecology, as part of the Northern Environmental and Conservation Sciences, B.Sc. Program. All students registered in BIOL 225 or REN R 401B 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. Instructor/Coordinator, Northern Environmental and Conservation Sciences Program, Yukon University and Adjunct Professor, Dept. of Renewable Resources, U of Alberta
OFFICE HOURS:	By appointment (email to set up; appointments held via Zoom or phone)
OFFICE LOCATION:	A2509 (BUT access to YukonU campus in W2021 will be limited and I will not be available for in-person meetings. Email is the best way to reach me).
TELEPHONE/E-MAIL:	867-668-8866; kaitken@yukonu.ca

CLASS DAYS & TIMES:	Thursdays, 1:00-2:20 pm Yukon time; other material delivered asynchronously on class site on YukonU's Moodle system.
CLASS LOCATION:	Most material will be delivered online via Moodle; however, there will be 5 in-person sessions in the YukonU Biology lab (A2805) or outdoors at Ayamdigut (Whitehorse) campus.

The lecture/lab schedule distributed at the start of term contains details of which weeks will be in-person.

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.

STUDENT LEARNING OUTCOMES AND COMPETENCIES:

Upon successful completion of this course students will be able to do the following:

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 67 Yukon bird species by sight and/or sound and know the distinguishing characteristics of 11 bird orders and 25 bird families.

COURSE FORMAT (3-0-0):

The course consists of a mixture of online material delivered asynchronously (lecture recordings, videos, readings, etc.) via YukonU's Moodle system, online 1.5 hour synchronous sessions via Zoom, and five 1.5-hour in-person lab sessions or bird walks on campus.

COURSE PREREQUISITES AND/OR CO-REQUISITES:

For students taking the course as BIOL 225: Successful completion of YukonU's BIOL 101 and 102, or equivalent first-year college or university 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 and 102, or an equivalent first-year biology course, or permission of an ENCS Program Advisor.

TEXTBOOKS/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 beginning 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. 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, and for participating in bird walks. 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 enters 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 recordings, announcements, reading, and other material will be available there for download or viewing.

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, Sway, etc). See information at the YukonU Technical Resources web page linked above.

YUKON UNIVERSITY ACADEMIC STANDARDS AND REGULATIONS

Information on academic standing and student rights and responsibilities can be found in the current Academic Regulations that are posted on the Student Services/ Admissions & Registration web page.

Plagiarism

Plagiarism is a serious academic offence. Plagiarism occurs when a student submits work for credit that includes the words, ideas, or data of others, without citing the source from which the material is taken. Plagiarism can be the deliberate use of a whole piece of work, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Students may use sources which are public domain or licensed under Creative Commons; however, academic documentation standards must

still be followed. Except with explicit permission of the instructor, resubmitting work which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the University.

UNIVERSITY OF ALBERTA ACADEMIC INTEGRITY AND CODE OF STUDENT BEHAVIOUR

Academic Integrity

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.

Code of Student Behaviour

All students at the University of Alberta are subject to the Code of Student Behaviour, as outlined at: http://www.governance.ualberta.ca/en/CodesofConductandResidenceCommunityStandards/CodeofStudentBehaviour.aspx 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.

COURSE REQUIREMENTS/EVALUATION:

Attendance and Participation

Attendance during synchronous online sessions and at in-person activities (labs, bird

walks) is not mandatory. However, students will benefit substantially from participating in these sessions.

There will be two Saturday or Sunday field trips to local birding "hot spots", and one bird walk at the Yukon University campus. These will occur between late February and early April (exact dates TBD). Weekend bird walks will last 1.5-2 hours and will occur mid-day or early afternoon. The campus bird walk will be during one of the synchronous Thursday class periods in April.

Assignments

Assignments will focus on the development of skills used in avian research, including conducting basic data analyses and summaries, and scientific communication. Assignments are described below.

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. In addition to those 10, you must submit at least one checklist during the Great Backyard Bird Count between Feb. 12-15, 2021 (https://gbbc.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. 1, and reports for the passerine species will be due by Mar. 22. Details on report format will be provided on the class site on Moodle at the start of the term. Reports will be uploaded to a discussion forum on the class site so that they are accessible to other students in the course. Material contained in the reports will be examinable.

REN R 401B students ONLY:

Research project (30% of total course grade):

Students taking the course as REN R 401B will complete a research project. Using nest cams, feeder cams, or other publicly accessible wildlife cameras online, students will collect and analyse observational data on a question related to behaviour, foraging, species diversity, or parental care. Students will present their results as a scientific research paper, formatted in the style of the journal *The Auk: Ornithological Advances* (https://americanornithology.org/publications/the-auk/). Papers must include an Abstract, Introduction, Methods, Results (with at least one table and two figures), Discussion, and Literature Cited (including at least 7 primary sources). Detailed guidelines and instructions for the research project will be distributed on the class site on Moodle at the start of the term. Students must submit an outline of their project by Feb. 1 at the latest (preferably earlier). Final papers will be due on Apr. 1.

Exams

There will be one midterm exam (30% of course grade) and one comprehensive final exam (30% of course grade). The midterm exam will have two parts, one of which will be delivered online via Moodle during the synchronous class time on Feb. 18 (1:00-2:30 pm Yukon time), and the second of which will be a longer take-home question to be completed outside of Moodle. The final examination will be held on Thursday, Apr. 15, from 1:00-4:00 pm Yukon time, during the scheduled Yukon University exam period. If allowed by YukonU under COVID guidelines in place at that time, the exam will be delivered on campus; otherwise, it will be delivered online via Moodle. Exams will cover lecture material, as well as bird identification, and information from the bird status reports that will be completed by BIOL 225 students.

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.

Evaluation

The course grade will be determined as follows:

Students enrolled in the course as BIOL 225:

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	Percent
eBird checklists (submitted throughout term)	10%
Status reports (2 @ 15% each) (due Feb. 1 and Mar. 22)	30%
Midterm exam (Feb. 18)	30%
Final exam (Apr. 15)	30%
Total	100%

Students enrolled in the course as RENR 401B:

	Percent
eBird checklists (submitted throughout term)	10%
Research project (outline due by Feb. 1; final paper due on Apr. 1)	30%
Midterm exam (Feb. 18)	30%
Final exam (Apr. 15)	30%
Total	100%

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

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.

YUKON FIRST NATIONS CORE COMPETENCY

Yukon University recognizes that a greater understanding and awareness of Yukon First Nations history, culture and journey towards self-determination will help to build positive relationships among all Yukon citizens. As a result, to graduate from ANY Yukon University program, you will be required to achieve core competency in knowledge of Yukon First Nations. For details, please see www.yukonu.ca/yfnccr.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, they should contact the Learning Assistance Centre (LAC): lac@yukonu.ca.

EQUIVALENCY/TRANSFERABILITY:

BIOL 225: For current information on transferability of BIOL 225 to post-secondary institutions in BC, see http://www.bctransferguide.ca.

TOPICS:

- Introduction to Class Aves
- Orders and Families of birds
- Introduction to bird identification (sight and sound), and bird survey techniques
- 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)
- Populations and Communities
- Avian conservation issues in the North and elsewhere