

ANSC*3180 - Wildlife Nutrition

Fall 2024 Course Outline

Section: 01

Credits: 0.50

Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

Calendar Description

This course is a study of the nutrition of avian and mammalian wildlife with emphasis on North American species and the role of nutrition in survival and population growth of wildlife in their natural habitat.

Prerequisite(s): NUTR*3210

Department(s): Department of Animal Biosciences

Course Description

A course in which students will learn about nutrient requirements and nutritional idiosyncrasies of mammalian and avian wildlife from all over the world, with highlights on North American species. Some non-mammalian and non-avian species will be addressed in lecture however, will not be the main focus of this course. Students will be introduced to the role that nutrition plays in the survival of individual animals, species survival and reproduction, and population dynamics of wildlife species in their natural habitats.

Students should have an established understanding of the fundamental principles of nutrition. The material in the course will build on this background to enhance the understanding of nutrient requirements and utilization in avian and mammalian wildlife species.

Lecture Schedule

MonWedFri 8:30am-9:20am in ALEX*200 (9/5 to 12/13)

Final exam will be held online Friday December 13th, between 8:00 am - 5:00 pm, open book.

Instructor Information

Cara Cargo-Froom, PhD

Post-doctoral fellow and sessional instructor

Email: ccargofr@uoguelph.ca

Office: ANNU 231

Office Hours:

Office hours TBD

Additional Support

All students will be assigned to a specific GTA on the first day of class. Your TA will be available to answer questions throughout the course.

Please contact your specific assigned GTA via email or post your question to the discussion board with initial questions. If necessary, contact the instructor.

Please allow 24-48 hours (1-2 business days) for email responses before following up with your respective contact. Emails will be addressed during working hours (Monday – Friday, 8 am – 5 pm).

Learning Resources

Required Resources

- Required (Textbook): Not applicable

Recommended Resources

- General introductory text: Robbins, C. T. (1993). *Wildlife Feeding and Nutrition. 2nd Edition*. Electronic version available via Courselink 'Content' under 'Additional resources'
- More recent general introductory text: Barboza, P. S., Parker, K. L., and Hume, I. D. (2009). *Integrative Wildlife Nutrition*. Electronic version available on Ares reserve (Link to Ares (<https://ares.lib.uoguelph.ca/ares/>))
- Text dealing specifically with marsupial nutrition: Hume, I. D. (1999). *Marsupial Nutrition*. Hardcopy available on reserve at UoG Library. See Ares for reserve details (Link to Ares (<https://ares.lib.uoguelph.ca/ares/>))
- Resource dealing with digestive physiology: Stevens, C. E., and Hume, I. D. (1995) *Comparative Physiology of the Vertebrate Digestive System. 2nd Edition*. Hardcopy available on reserve at UoG Library. See Ares for reserve details (Link to Ares (<https://ares.lib.uoguelph.ca/ares/>))
- Stevens, C. E., and Hume, I. D. (1998) *Contributions of Microbes in Vertebrate GIT to Production and Conservation of Nutrients*. Electronic version available via Courselink 'Content' under 'Additional resources'
- Useful source for food habits, species classifications, and ecology terminology: Boxshall, G. A., and Lincoln, R. J. (1987) *Comparative Physiology of the Vertebrate Digestive System. 2nd Edition*. Hardcopy available on reserve at UoG Library. See Ares for reserve details
- Source for photos, descriptions, habitat, and life cycle information of relatively unknown animals: Boitani, L, Bartoli, S., and Anderson, S. (1994) *Simon & Schuster's Guide to Mammals*. Hardcopy available on reserve at UoG Library. See Ares for reserve details

Additional Resources

- Other resources: PDF copies of the lecture slides will be posted to Courselink (<https://courselink.uoguelph.ca/shared/login/login.html>) prior to each lecture timeslot. Lectures and lecture slides are not intended to be the sole source of information. All material, including information covered in both the lectures and discussion periods, is testable for the midterm/final and applicable for the final project.

The following Course Resources are Not Applicable

- Lab
- Lab Manual
- Seminar
- Field Trip
- Additional Costs

Field Trip Fees

For those courses in the Department of Animal Biosciences that have a field trip component - an associated fee for each field trip in the amount of \$20 will apply. Further details on how these fees will be collected will be provided in class/on CourseLink; along with a waiver form that will need to be completed prior to the trip(s).

Library Course Reserve (Ares)

For this course, you will be required to access course reserve materials through the University of Guelph McLaughlin Library. To access these items, select **Ares** on the navbar in CourseLink. Note that you will need your Central Login ID and password in order to access items on reserve.

For further instructions on accessing reserve resources, visit How to Get Course Reserve Materials (<https://www.lib.uoguelph.ca/find/course-reserves-ares/>).

If at any point during the course you have difficulty accessing reserve materials, please contact the e-Learning Operations and Reserve Services staff at:

Tel: 519-824-4120 ext. 53621 | Email: libres2@uoguelph.ca | Location: McLaughlin Library, First Floor, University of Guelph

Course Learning Outcomes

1. Identify, describe and differentiate the digestive systems of carnivorous, omnivorous and herbivorous mammals and birds.
2. Develop an assessment of nutrient and energy requirements for one wild living species throughout the year.
3. Develop or enhance the ability to find, review, and assess the value and relevance of peer-reviewed journal articles relating to the nutrition of mammalian and/or avian wildlife species.

- Understand, develop and use one virtual method (e.g. YouTube video or website) of presenting scientifically based information to either a scientific or general public audience.
- Develop an ability to integrate current scientific knowledge on food habits, food composition and digestion in mammalian and avian wild-living species, with the constraints of migration, hibernation, available food energy and potentially toxic components in food.

Course Level Learning Outcomes

For students to study and understand the following topics in the wildlife context:

- Availability and requirements of nutrients by species in their natural habitats.
- Methods of nutrient/energy acquisition and utilization nutrients in response to seasonal fluctuations, diet quality, and diet quantity.
- Food habits, natural diet nutritional composition, and comparative aspects of digestion and digestive anatomy in ruminant and non-ruminant herbivores, omnivores, and carnivores.
- Requirements and metabolism of energy as well as other potentially limiting nutrients.
- Ways in which to calculate energy and nutrient requirements and determine how physiology, reproduction, maintenance, growth, activity, and environment may cause requirements to change.

University Level Learning Outcomes

University Learning Outcomes

The course is designed to meet the following Learning Outcomes of the University of Guelph:

- Critical and creative thinking: Inquiry and Analysis, Problem Solving, Creativity, Depth and Breadth of Understanding
- Literacy: Information Literacy, Quantitative Literacy, Technological Literacy, Visual Literacy
- Communicating: Oral Communication, Written Communication, Reading Comprehension, Integrative Communication
- Professional and ethical behavior: Teamwork, Ethical Reasoning, Leadership, Personal Organization and Time Management

Schedule of Topics and Assignments

Day	Date	Topic	Activities	Due
Fri	9/6	Course overview and introductions Assignment overview		
Mon	9/9	Nutrition fundamentals - Macronutrients		
Wed	9/11	Nutrition fundamentals - Macronutrients		
Fri	9/13	Nutrition fundamentals – Micronutrients		Species selection due 11:59 pm
Mon	9/16	Nutrition fundamentals - Mammalian digestive physiology Part I		
Wed	9/18	Nutrition fundamentals – Mammalian digestive physiology Part I		
Fri	9/20	Nutrition fundamentals – Mammalian digestive physiology Part II		
Mon	9/23	Discussion Period		
Wed	9/25	Nutrition fundamentals – Avian digestive physiology		
Fri	9/27	Nutrition fundamentals – Energy expenditure		
Mon	9/30	Discussion Period		
Wed	10/2	Nutrition fundamentals – Energy partitioning		
Fri	10/4	Discussion Period		
Mon	10/7	Nutrition fundamentals – Proximate analysis		

Wed	10/9	Energy – Maintenance	
Fri	10/11	Discussion Period	
Mon	10/14	Thanksgiving Holiday	
Wed	10/16	Energy - Activity	
Fri	10/18	Discussion period	Midterm, Opens 8 am, Closes 5 pm
Mon	10/21	Energy – Reproduction	
Wed	10/23	Energy – Thermoregulation	
Fri	10/25	Discussion Period	Infographic due 11:59 pm
Mon	10/28	Energy – Hibernation and torpor	
Wed	10/30	Energy – Migration	
Fri	11/1	Discussion Period	
Mon	11/4	Food habits – Categorization	
Wed	11/6	Food habits – Food chains	
Fri	11/8	Discussion period	
Mon	11/11	Food habits – Research studies	
Wed	11/13	Diet composition – Broad diet composition/ digestion	
Fri	11/15	Discussion period	Major project due 11:59 pm
Mon	11/18	Diet composition – Carnivorous diet composition/digestion	
Wed	11/20	Diet composition – Herbivorous diet composition/digestion	
Fri	11/22	Discussion period	
Mon	11/25	Diet composition – Toxins and anti-nutrients Part I	
Wed	11/27	Diet composition – Toxins and anti-nutrients Part II	
Fri	11/29	Discussion Period	
Fri	12/13	Final Exam	Final, Opens 8 am, Closes 5 pm

Assessment Breakdown

Description	Percentage Grade	Due Date
Midterm	15	October 18th, 8:00 am - 5:00 pm, Online
Final	30	Friday December 13th, 8:00 am - 5:00 pm, Online
Species Selection	1	Friday September 13th, 11:59pm
Infographic	14	Friday October 25th, 11:59 pm
Major Project	40	Friday November 15th, 11:59 pm

Assessment Details

Midterm

Midterm

15%

Date: Friday October 18th, 8:00 am - 5:00 pm, Online

Both the Midterm and Final will be accessible through Courselink 'Quizzes' tab and will begin at exactly 8 am close at exactly 5 pm. Midterm and Final are open book.

Course Learning Outcomes Assessed: 1, 5

Exam

Final 30%

Date: Friday December 13th, 8:00 am - 5:00 PM, Online

Both the Midterm and Final will be accessible through Courselink 'Quizzes' tab and will begin at exactly 8 am close at exactly 5 pm. Midterm and Final are open book.

To understand rules and regulations regarding Examinations students are encouraged to read Student's Responsibilities (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/examinations/>)

If the student is unable to meet the final exam requirements due to medical, psychological or compassionate circumstances they are encouraged to review Student's Responsibilities in the Academic Consideration, Appeals and Petitions (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>) section of the Academic Calendar.

Course Learning Outcomes Assessed: 1, 5

Species Selection

Species Selection 1%

Species selection is due Friday September 13th, 11:59 pm (via dropbox in Courselink).

Species selection will pertain to the species selected for the infographic and major project.

Project

Infographic 14%

Infographic Due: Friday October 25th, 11:59 pm (via dropbox in Courselink)

Course Learning Outcomes Assessed: 2, 3, 5

Major Project 40%

Major Project Due: Friday November 15th, 11:59 pm (via dropbox in Courselink)

Note: All portions of the major project are expected to be unique work. Project details to be discussed in lecture.

Course Learning Outcomes Assessed: 2, 3, 4, 5

Last Day to Drop Course

The final day to drop Fall 2024 courses without academic penalty is the last day of classes: November 29

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

Course Grading Policies

Grading Policies:

- All grades (with the exception of the final exam) will be returned within 10 business days. For further grading policies, see the undergraduate calendar for information on University of Guelph grading policies.

Academic Considerations/Extensions:

- It is the student's responsibility to request consideration for an assignment extension, course conflict, or anticipated absence a minimum of 5 business days prior to the deadline. Exceptions may be made on a one-to-one basis (by the instructor) for requests made within 5 days of the deadline.
- For further details regarding illness or compassionate reasons for extensions, please see standard statements for undergraduate courses.

Without an accepted request for consideration (by the instructor):

- A penalty of 5% per day will be applied to the following late assignments (paper reviews, bibliography, infographic, and project).
- Without an approved request for consideration (by the instructor), species selection not made by the due date will result in a grade of '0%'.
- Midterm/final missed due to unreported absence will be graded as '0%' (cannot be retaken).

Course Standard Statements

Netiquette Expectations

For distance education courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security or functionality of the learning management system;
- Sharing your username and password; and
- Recording lectures without the permission of the instructor.

Courselink System Requirements

You are responsible for ensuring that your computer system meets the necessary system requirements. (<https://opened.uoguelph.ca/student-resources/system-and-software-requirements/>) Use the browser check (<https://courselink.uoguelph.ca/d2l/systemCheck/>) tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window)

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Courselink Support

University of Guelph

Day Hall, Room 211

Email: courselink@uoguelph.ca

(<https://calendar.uoguelph.ca/syllabi/commontext/detechnology/email%20to:courselink@uoguelph.ca>)

Tel: 519-824-4120 ext. 56939

Toll-Free (CAN/USA): 1-866-275-1478

Walk-In Hours (Eastern Time):

Monday thru Friday: 8:30 am-8:30pm

Phone/Email Hours (Eastern Time):

Monday thru Friday: 8:30am-8:30pm

Saturday: 10:00am - 4:00pm

Sunday: 12:00pm - 6:00pm

Standard Statements for Undergraduate Courses

Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability. Use of the SAS Exam Centre requires students to make a booking at least 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas/>)

Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all undergraduate students except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

Email Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigators/>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing resources (<https://wellness.uoguelph.ca/shine-this-year/>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

Recording of Materials

Presentations that are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)