



## **ANSC\*4560 Pet Nutrition**

Fall 2019

Section(s): C01

Department of Animal Biosciences

Credit Weight: 0.50

Version 1.00 - August 12, 2019

---

### **1 Course Details**

#### **1.1 Calendar Description**

This course covers nutrient requirements, feed formulation and nutritional idiosyncrasies for dogs, cats, and exotic pets.

**Pre-Requisites:** NUTR\*3210

#### **1.2 Course Description**

This course covers nutrient requirements, feed formulation, and nutritional idiosyncrasies for dogs, cats, and exotic pets.

#### **1.3 Timetable**

Lectures: Tuesday/Thursday 2:30-3:50 p.m. in JTP 2266

#### **1.4 Final Exam**

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

---

### **2 Instructional Support**

#### **2.1 Instructional Support Team**

<b>Instructor:</b>	Anna Kate Shoveller
<b>Email:</b>	ashovell@uoguelph.ca
<b>Telephone:</b>	+1-519-824-4120 x53140
<b>Office:</b>	ANNU 240
<b>Office Hours:</b>	By appointment and TBA

**Instructor:** Jim Atkinson  
**Email:** jatkinso@uoguelph.ca  
**Telephone:** +1-519-824-4120 x53716  
**Office:** ANNU 228  
**Office Hours:** By appointment and TBA

## 2.2 Teaching Assistants

Teaching Assistant	Email	Responsibilities	Office	Office Hours
James Templeman	jtemplem@uoguelph.ca	Course content and exams	TBA	TBA
David Seymour	seymourd@uoguelph.ca	Annotated bibliography for video	TBA	TBA
Alexandra Rankovic	arankovi@uoguelph.ca	Presentation/video	TBA	TBA
Katja Sutherland	katja@uoguelph.ca	Product development project	TBA	TBA

## 3 Learning Resources

### 3.1 Required Resources

L.P. Case, D.P. Carey, D.A. Hirakawa and L. Daristotle (2010) **Canine and Feline Nutrition, 3rd Edition**, Mosby, Inc., St. Louis, MO. (Textbook)  
 5 are on reserve

### 3.2 Recommended Resources

The Mark Morris Institute (MMI). **Small Animal Clinical Nutrition, 5th Edition (Textbook)**  
[http://www.markmorrisinstitute.org/sacn5\\_chapters.html](http://www.markmorrisinstitute.org/sacn5_chapters.html)

### 3.3 Additional Resources

#### Other Resources (Notes)

Electronic copy of course notes, handout (copies of the PPT slides) and other material will also be posted on a weekly basis on the course website. Copies of course notes are not intended to be the sole source of information, but guide an academic discussion on course material.

## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Develop an understanding of the different needs of different exotic animals.
2. Develop an understanding of the basic digestive, physiological and metabolic processes of dogs and cats as they relate to nutrition.
3. Be aware about the relationship between nutrition, environment, welfare and health.
4. Compare approaches for establishing nutrient requirements, nutritional specifications, and feed formulation guidelines and be able to discuss some of the limitations and implications of these approaches. Learn about some of the methods and protocols commonly used in pet nutrition research.
5. Learn about feed ingredients, their origin, and the factors affecting their quality and nutritive value.
6. Learn about formulation and manufacturing pet foods (pet feeds) and the regulatory issues related to pet foods.
7. Be exposed to current and emerging issues in the pet food industry.
8. Acquire some of the skills needed to be able to effectively gather, integrate and analyze scientific information to make informed decisions related to the nutrition and health of companion animals and be able to develop a critical view of nutritional claims and statements found in technical and commercial pet food documentation and advertising.
9. Learn about available commercial and unconventional pet foods.
10. Understand that optimal feeding of healthy companion animals is important for the prevention of disease.

### 4.2 University Level Learning Outcomes

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

#### 1. Literacy

Students will be required to critically review and understand the up-to-date scientific information on pet nutrition compiled in course notes and lecture material (power point slides). The students will also be required to review scientific papers and technical documents, comprehend and present ideas and findings into an imposed format.

#### 2. Understanding of Forms of Inquiry

A major theme of this course will pertain to the process whereby information is

obtained from a variety of sources and presented and interpreted from various perspectives.

**3. Depth and Breadth of Understanding**

This course will cross the boundaries of several conventional disciplines within the broad areas of nutrition, metabolism, physiology, feed technology, etc. Students will be encouraged to go beyond material discussed in class.

**4. Independence of Thought**

Emphasis will be placed on identifying and understanding the basis for current viewpoints. Inevitably, this results in challenges to orthodoxy.

**5. Love of Learning**

This course will be aimed at helping students to distinguish between education and training, and to ascribe value to both.

## 5 Teaching and Learning Activities

### 5.1 Lecture

#### Week 1

**Topics:** Introduction & overview of ways of working for the semester

The pet food industry and pet food market

#### Week 2

**Topics:** Feeding of alternative pet species - pocket pets, reptiles and cage birds

Instructor: J.L. Atkinson

Note: **Add period ends Sept 13.**

**Week 3**

**Topics:** Revisit class outline, release topics for assignments

The pet food industry and regulations

Factors influencing nutrient requirements: Anatomic and metabolic idiosyncrasies of the dog and the cat

Instructor: A.K. Shoveller

**Week 4**

**Topics:** Factors influencing nutrient requirements: Anatomic and metabolic idiosyncrasies of the dog and the cat

Recommended energy and nutrient intakes for dogs and cats

Instructor: J. Templeman / A.K. Shoveller

**Week 5**

**Topics:** Recommended energy and nutrient intakes for dogs and cats

Instructor: A.K. Shoveller

**Week 6**

**Topics:** Wrap up energy and nutrient intakes for dogs and cats and review for midterm

**Thursday October 10: MIDTERM**

Instructor: A.K. Shoveller

**Week 7**

**Topics: Thanksgiving**

Manufacturing pet food: Ingredient quality and processing techniques

Instructor: Renan Donadelli

**Week 8**

**Topics:** Manufacturing pet food: Ingredient quality and processing techniques

Formulation tutorial

Instructor: A.K. Shoveller

**Week 9**

**Topics:** Manufacturing pet food: Ingredient quality and processing techniques

Behavior in cats and dogs and its effect on feeding management

Instructor: A.K. Shoveller

**Week 10**

**Topics:** Oral and dental health of cats and dogs

Nutrition of working dogs

Instructors: A.K. Shoveller and J. R. Templeman

**Week 11**

**Topics:** Gastrointestinal health, the first line of defense

Instructor: A.K. Shoveller

**Week 12**

**Topics:** Life cycle nutrition for dogs and cats

Senior cat considerations

**References:** Supplementary reading: Healthy Aging in Dogs

Instructor: A.K. Shoveller

### Week 13

**Topics:** Review all public videos and peer review these

Note: **GROUP SUBMISSION for Public Video**

## 6 Assessments

### 6.1 Marking Schemes & Distributions

Name	Scheme A (%)
MIDTERM	20
Product development	30
GROUP Public education video	20
Final Exam	30
Total	100

### 6.2 Assessment Details

#### **MIDTERM (20%)**

**Date:** Thu, Oct 10, IN CLASS

#### **Product development (30%)**

**Date:** Sun, Nov 10, 11:55 PM, DROP BOX

#### **Public Education Video (20%)**

**Date:** Mon, Nov 25, 11:55 PM, DROP BOX

Solid scientific support documentation for your product (GROUP)

#### **Final Exam (30%)**

**Date:** , TBA

Based on exam scheduling. TBA.

### 6.3 Term Project Description & Details

**Product development:** Each student will be required to carry out a term project worth 30% of the final mark. The project will focus on the selection of current commercial diets (nutrient levels, ingredients utilized, and claims made), subsequent development of a similar

formulation, and a summary of the scientific support for that type of diet.

The type of product for dogs or cats will be chosen by the student and will need to be personally approved by Dr. Shoveller. You are encouraged to drop in and discuss your product focus with Dr. Shoveller. A commercial product must be chosen based on diets for healthy animals (no therapeutic diets). Students should look at what claims appear on the food package that relate to the formulation and seek to understand whether scientific support exists to substantiate these claims. Understanding the ingredient selection to meet the guaranteed analyses is critical and underpins attempts to match the formula using the formulation spreadsheet.

Students will use software developed by teaching assistant Ilona Parenteau and Professor Shoveller to try and duplicate the diet researched. We encourage you to consider new nutritional technologies from the scientific peer-reviewed literature to incorporate into your product and “tell your story”. Attempts to improve diets and provide scientific or patent support will be required to demonstrate a thorough understanding of the formulation approach. You will be required to properly calculate moisture and metabolizable energy content of the foods and you should put your guaranteed analyses together based on your predicted macronutrient and micronutrient content.

## **GROUP PROJECT**

**Public communication/video:** A scientifically supportable public outreach video should be researched (annotated bibliography) will be completed by the end of the semester. The 2019



focus for the videos will be “Fact or Fiction” and they will be targeted to educate pet owners in less than 5 minutes. Students will be primarily evaluated on scientific accuracy and level of understandability. Videos will also be scored by individuals employed in Communications at the University of Guelph in addition to your peers, the instructor (Shoveller), and teaching assistants. Presentations will be viewed in the final week of class and each student is expected to evaluate each presentation. **Failure to evaluate each presentation, will result in a 10% deduction on your mark for this assignment.**

## 6.4 Late Assignment Policy

**10% per day will be deducted for late assignments. It is the student’s responsibility to request consideration for late assignments or missed exams a minimum of 5 days prior to the deadline. Failure to adhere to the regulations pertaining to graded assignments and midterms as described in this document may result in a mark of zero and consultation with the Dean’s office regarding academic misconduct.**

---

# 7 Course Statements

## 7.1 Grading Policies

Exams and presentations will be handed back within 7 working days of the assignment due date.

## 7.2 Course Policy on Group Work

Working in groups is challenging, but certainly a “real life” experience. Please show compassion, consideration and respect for each other.

# 8 University Statements

## 8.1 Email Communication

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

## 8.2 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. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions  
<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### 8.3 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 students (undergraduate, graduate and diploma) 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 their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses  
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes  
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses  
<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

### 8.4 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.

### 8.5 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 book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 8.6 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 encourages academic integrity. 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.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 8.7 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.

## 8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

---