ANSC*4560 Pet Nutrition F (3-0) [0.5]

Course Outline

Fall 2018

General Information

Course Title: ANSC*4560 Pet Nutrition F (3-0) [0.5]

Course Description: This course covers nutrient requirements, feed formulation, and nutritional idiosyncracies for dogs, cats, and exotic pets.

Credit Weight: 0.5

Academic Department (or campus): Department of Animal Biosciences

Campus: Guelph

Semester Offering: Fall

Class Schedule and Location: Lectures: Tuesday/Thursday 4:00pm- 5:20pm ALEX 100
**Instructor Information**

Primary Instructor Name: Anna Kate Shoveller  
Instructor Email: ashovell@uoguelph.ca  
Office location: ANNU 240  
Office hours: Tuesdays and Thursdays: 2:00-3:30pm.

**GTA Information**

GTA Name: James Templeman  
GTA Email: jtemplem@uoguelph.ca  
Office location: ANNU 229  
Office hours: By appointment.  
Responsibility: Course content

GTA Name: Dave Seymour  
GTA Email: seymourd@uoguelph.ca  
Office location: ANNU 229  
Office hours: By appointment.  
Responsibility: Course content

GTA Name: Kylie Hogan  
GTA Email: khogan01@uoguelph.ca  
GTA office location and office hours: By appointment.  
Responsibility: Product comparison assignment of ingredients, nutrient density, claims on pack

GTA Name: Ilona Parenteau  
GTA Email: iparente@uoguelph.ca  
GTA office location and office hours: By appointment.  
Responsibility: Formulation assignment

**How to contact course instructor(s) and teaching assistants**

General questions: ansc4560@uoguelph.ca (TBA)

Specific assignment questions: Please contact the teaching assistant responsible for your specific inquiry.
**Course Content**

**Specific Learning Outcomes:**

The students will:

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) Understand that optimal feeding of healthy companion animals is important for the prevention of disease

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.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date(s)</th>
<th>Topics</th>
<th>Instructor or Guest Speaker(s)</th>
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<tbody>
<tr>
<td>1</td>
<td>6 Sept</td>
<td>Introduction to course (10 minutes)</td>
<td>Shoveller</td>
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<td></td>
<td></td>
<td>The pet food industry and pet food market, organizations and regulations</td>
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<tr>
<td>2</td>
<td>11 Sept</td>
<td>The pet food industry and pet food market, organizations and regulations</td>
<td>Shoveller</td>
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<td></td>
<td>13 Sept</td>
<td>Factors influencing nutrient requirements: Metabolic idiosyncracies of the dog and the cat</td>
<td>Shoveller</td>
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<td>*Add period ends Sept 14</td>
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<tr>
<td>3</td>
<td>18 and 20 Sept</td>
<td>Factors influencing nutrient requirements: Metabolic idiosyncracies of the dog and the cat</td>
<td>Shoveller</td>
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<td>*Groups announced for final project</td>
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<tr>
<td>4</td>
<td>25 Sept</td>
<td>Exotic animal metabolic and nutritional idiosyncracies</td>
<td>Tiana Owens, MSc candidate</td>
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<td></td>
<td>27 Sept</td>
<td>Recommended energy and nutrient intakes for dogs and cats</td>
<td>Shoveller</td>
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<tr>
<td>5</td>
<td>2 and 4 Oct</td>
<td>Recommended energy and nutrient intakes for dogs and cats</td>
<td>Shoveller</td>
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<tr>
<td>6</td>
<td>9 Oct</td>
<td>Study Break (no class)</td>
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<td></td>
<td>11 Oct</td>
<td>Wrap up energy and nutrient intakes for dogs and cats and review for midterm</td>
<td>Shoveller</td>
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<td>12 Oct: Product comparison due by 11:59 pm via dropbox</td>
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<td>7</td>
<td>16 Oct</td>
<td>MIDTERM</td>
<td>Shoveller</td>
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<td></td>
<td>18 Oct</td>
<td>Manufacturing pet food: Ingredient quality and processing techniques</td>
<td>Shoveller</td>
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<td>8</td>
<td>23 Oct</td>
<td>Manufacturing pet food: Ingredient quality and processing techniques</td>
<td>Shoveller</td>
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<tr>
<td>Week</td>
<td>Date(s)</td>
<td>Topic</td>
<td>Instructor(s)</td>
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<tr>
<td>9</td>
<td>25 Oct</td>
<td>Formulation tutorial</td>
<td>Parenteau/ Seymour/ Hogan</td>
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<td></td>
<td>30 Oct</td>
<td>Manufacturing pet food: Ingredient quality and processing techniques</td>
<td>Shoveller</td>
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<td></td>
<td>1 Nov</td>
<td>Behavior in cats and dogs and its effect on feeding management</td>
<td>Shoveller</td>
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<td><strong>(40th class day, November 2)</strong></td>
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<td>10</td>
<td>6 Nov</td>
<td>Oral and dental health of cats and dogs</td>
<td>Shoveller</td>
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<td></td>
<td>8 Nov</td>
<td>Nutrition of working dogs</td>
<td>James Templeman, PhD candidate</td>
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<td>11</td>
<td>13 and 15 Nov</td>
<td>Gastrointestinal health, the first line of defense</td>
<td>Shoveller</td>
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<td><strong>16 November: Formula spreadsheet due by 11:59 pm via dropbox</strong></td>
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<tr>
<td>12</td>
<td>20 Nov</td>
<td>Life-cycle nutrition for dogs and cats</td>
<td>Shoveller</td>
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<td>22 Nov</td>
<td>Senior cat considerations</td>
<td>Shoveller</td>
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<td><strong>Supplementary reading: Healthy aging in dogs</strong></td>
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<td>13</td>
<td>27 Nov</td>
<td>3 minute videos and peer grading</td>
<td>Shoveller/ Templeman and Seymour</td>
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<td></td>
<td>29 Nov</td>
<td>3 minute videos and peer grading</td>
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Labs:
Not applicable

Seminars:
Not applicable

Course Assignments and Tests:

<table>
<thead>
<tr>
<th>Assignment or Test</th>
<th>Due Date</th>
<th>Contribution to Final Mark (%)</th>
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<tbody>
<tr>
<td>Midterm</td>
<td>October 16, in class (ALEX 100 4:00 PM – 5:20 PM)</td>
<td>20%</td>
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<tr>
<td>Final exam</td>
<td>December 14, 11:30 AM – 1:30 PM</td>
<td>25%</td>
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<tr>
<td>Product comparisons for selected type of diet</td>
<td>Friday, October 12 before 11:59 PM via dropbox</td>
<td>20%</td>
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<tr>
<td>Formulation spreadsheet</td>
<td>Friday, November 16 before 11:59 PM via dropbox</td>
<td>20%</td>
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<tr>
<td>Public education video with solid scientific support documentation for your product (GROUP)</td>
<td>November 26 before 11:59 PM via dropbox</td>
<td>15%</td>
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* 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 quizzes as described in this document may result in a mark of zero and consultation with the Dean’s office regarding academic misconduct.

Term Project Description & Details

Each student will be required to carry out a term project worth 40% of the final mark. The project will focus on the evaluation of current commercial diets (nutrient levels, ingredients utilized, and claims made), subsequent development of a similar formulation, and then a GROUP assignment to summarize the scientific support for that type of diet.

1. Product comparison (due October 12 as described above): The type of product for dogs or cats will be chosen by the student and need to be personally approved by Dr. Shoveller. You are encouraged to drop in and discuss your product focus with Dr. Shoveller during full day office hours announced in class.
Three products must be chosen based on diets for healthy animals. Students are to research diets across multiple companies and compare the nutrient targets and ingredients utilized to meet these targets. Students should also look at what claims appear on the foods package that relate to the formulation. As students compile these comparisons they are encouraged to seek out scientific support (or lack thereof) for the dietary approach/philosophy to aid in subsequent assignments that continue to build on this first one.

**Bonus Marks:** You can get an additional 5% added to your product comparison by reflecting on the feedback you received and then coming prepared to discuss how would you improve your assignment with the teaching assistant (Hogan) and Dr. Shoveller. This discussion requires you to have achievable builds on your assignment and discuss how you take criticism and use it to become a better learner and more knowledgeable about pet food. Coming to the meeting unprepared to have a scientific discussion will result in no added marks.

2. Formulation spreadsheet (**due November 16 as described above**): Students will use software developed by teaching assistant Ilona Parenteau and Professor Shoveller to try and duplicate a diet or combination of approaches that were reviewed in #1. 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 dietary approach and an ability to find information to support your product. You will be required to properly calculate moisture and metabolizable energy content of the foods.

You will additionally describe an animal that your diet applies to and you will calculate feeding recommendations and justify this with the literature. Students will be required to calculate energy and protein requirements and justify the equations used.

3. Public communication/video: A scientifically correct explanation of a cats vs. dog (or another “pocket pet”) nutrition related topic targeted to educate the pet owner 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.
**Course Resources**

**Required Text:** (5 are on reserve)


**Recommended Text:**

http://www.markmorrisinstitute.org/sacn5_chapters.html

**Lab Manual:**

Not applicable

**Other Resources:**

Electronic copies of course notes, handouts (copies of the Powerpoint 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 to guide an academic discussion on course material.

**Field Trips:** TBD.

**Course Policies**

**Grading Policies:**

Midterm exams will be graded within 10 working days.

**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.

**Course Policy regarding use of electronic devices and recording of lectures:**

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.
University Policies

Academic Consideration:

The University of Guelph is committed to supporting students in their learning experiences and responding to their individual needs and is aware that a variety of situations or events beyond the student’s control may affect academic performance. Support is provided to accommodate academic needs in the face of personal difficulties or unforeseen events in the form of Academic Consideration.

Information on regulations and procedures for Academic Consideration, Appeals and Petitions, including categories, grounds, timelines and appeals can be found in Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar.

Academic Misconduct:

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.

Detailed information regarding the Academic Misconduct policy is available in Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar.

Accessibility:

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS), formerly Centre for Students with Disabilities (CSD), as soon as possible.
For more information, contact SAS at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or visit the Student Accessibility Services website (https://wellness.uoguelph.ca/accessibility/).

Course Evaluation Information:

End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions used as an important component in the Faculty Tenure and Promotion process, and as valuable feedback to help instructors enhance the quality of their teaching effectiveness and course delivery.

While many course evaluations are conducted in class others are now conducted online. Please refer to the Course and Instructor Evaluation Website for more information.

Drop period:

The drop period for single semester courses starts at the beginning of the add period and extends to the Fortieth (40th) class day of the current semester (the last date to drop a single semester courses without academic penalty) which is listed in Section III (Schedule of Dates) of the Undergraduate Calendar.

The drop period for two semester courses starts at the beginning of the add period in the first semester and extends to the last day of the add period in the second semester.

Information about Dropping Courses can be found in Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar.