Fall Semester

ANSC 422 Companion Animal Nutrition

Instructor:

Dr. Kelly S. Swanson
Professor
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Course description:

This is a fast-paced 8-week online course that will cover the digestive physiology and basic nutritional considerations of companion animals, with primary focus on dogs and cats. Topics will include macronutrient and micronutrient digestion, metabolism, and function, nutritional idiosyncrasies of dogs and cats, unique nutritional needs throughout the life cycle, nutrient needs during exercise, common pet food ingredients, and nutritional sustainability.

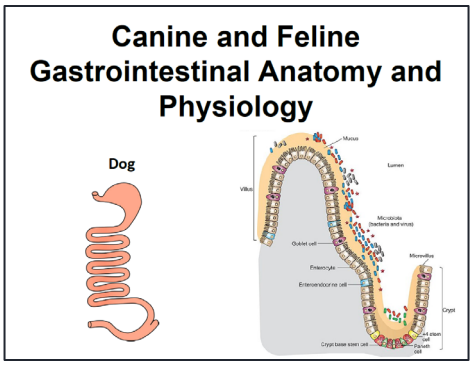
Course objectives:

1. Compare the digestive systems and methods employed by companion animal species with application to nutrition.
2. Define and compare macronutrient and micronutrient metabolism and requirements among healthy adult dogs and cats.
3. Define and compare nutrient and energy requirements of dogs and cats of various life stages and physiological status.
4. Describe the primary categories and definitions of ingredients used in pet foods.
5. Discuss how ingredient selection and pet food formulation may impact the sustainability of pet foods.

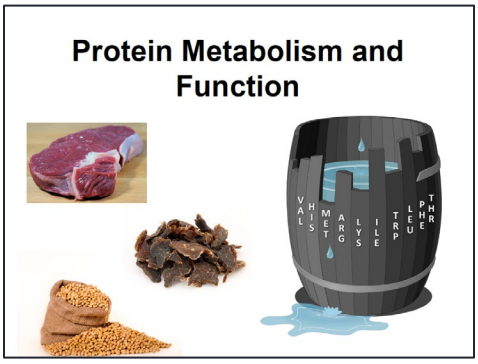
Course modules and learning goals

- *Describe the morphology and physiology of the stomach, small intestine, and large intestine.*
- *Describe protein, fat, and carbohydrate digestion and absorption.*
- *Describe microbial fermentation in the large intestine.*
- *Describe protein and amino acid, fat and fatty acid, and carbohydrate classification and functions.*
- *Define protein quality and describe how it may be tested.*
- *Describe the factors involved with lipid peroxidation.*
- *Compare and contrast dietary starch and fiber.*
- *Describe unique aspects of protein, fat, and carbohydrate metabolism of dogs and cats.*
- *List common ingredient sources of proteins, fats, and carbohydrates.*

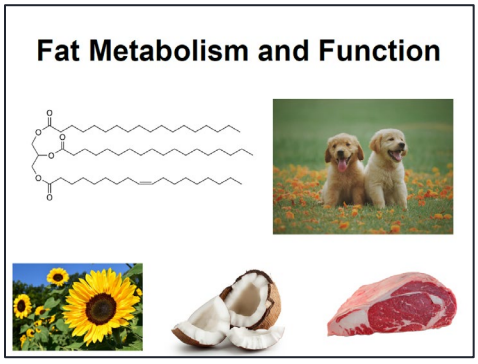
Module 1:



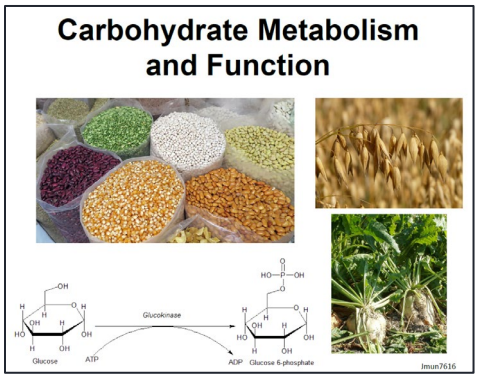
Module 2



Module 3



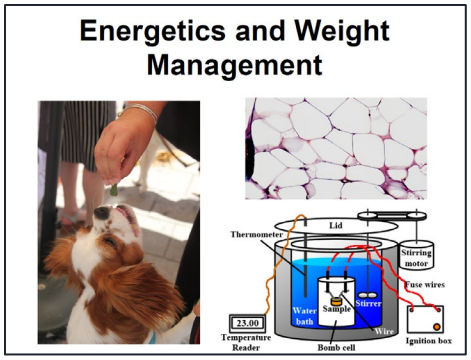
Module 4



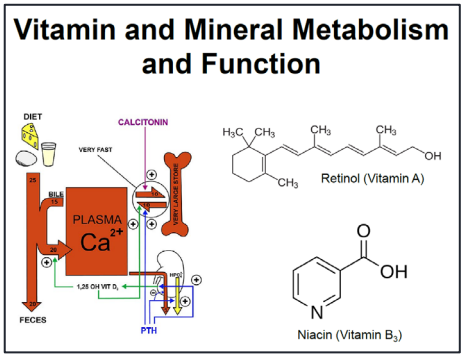
Course modules and learning goals

- *Describe energy partitioning and the factors affecting energy requirements.*
- *Describe how to estimate energy content of ingredients.*
- *List obesity risk factors and health issues, hormones contributing, and owner education methods to maintain healthy body weight.*
- *Describe vitamin and mineral classification, characteristics, and functions, and list dietary sources.*
- *List the primary considerations for creating complete and balanced pet foods.*
- *Give examples of feed additives and functional ingredients and provide their functions.*
- *Describe the primary nutritional sustainability principles and provide examples.*
- *Describe the unique needs of and general diet recommendations for dogs and cats of different life stages and exercising dogs.*

Module 5

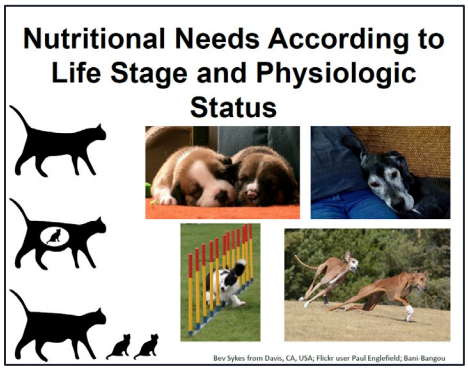


Module 6



Module 7

Module 8



Overview of course activities

Activity	Points	Occurrence	Total
Quizzes	5	6	30
Exams	25	2	50
Assignments	10	2	20
Total			100

Orientation activities, including the "**Getting to know you**" assignment and quiz. This provides an opportunity for students to introduce themselves and build an online community during this course. More detailed guidelines are provided on Compass, including a few tips of how to complete this assignment.

Six **weekly quizzes** (weeks 1, 2, 3, 5, 6, 7) will be given on Compass. Content covered in each quiz is not cumulative – it will only reflect the content of the module being covered that week. Each quiz is worth 5 points.

There will be **two exams** (weeks 4 and 8). Both exams will be comprised of multiple-choice, matching, true/false, and short answer type questions, and will be worth 25 points each. The first exam will cover lecture material from modules 1 through 4, and the second exam will cover modules 5 through 8.

Assignments in weeks 5 (diet calculation) and 7 (nutritional sustainability) will apply concepts learned in the energetics and nutritional sustainability portions of the course. Each will be worth 10 points.

Every Wednesday evening from 8 to 10 pm CT, **weekly live discussion sessions** via Zoom will be held. Dr. Swanson will be available during this time to answer questions pertaining to the course material.

Course grading

Grade Scale:

A:	> 90%
B:	80-89.9%
C:	70-79.9%
D:	60-69.9%
F:	< 60%

The proportion of student's points earned in relation to total points will be translated to the grade scale to the left.

Note: Students with special needs should notify the instructors during the first week of class, so adjustments can be made early in the semester. All requests for reasonable accommodations should be directed to the Disability Resources and Educational Services (DRES) Student Services Office (via phone: 217-333-1970; email: disability@illinois.edu; or website: www.disability.illinois.edu/).

Suggested texts (not required)

1. Case, L. P., L. Daristotle, M. G. Hayek, and M. F. Raash. 2011. Canine and feline nutrition, 3rd edition. Mosby, Inc., Maryland Heights, MO.

2. McNamara, J. P. 2006. Principles of Companion Animal Nutrition. Prentice Hall, Upper Saddle River, NJ.

Additional university policies

University Policy on Academic Integrity: The University of Illinois at Urbana-Champaign Student Code should be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: http://studentcode.illinois.edu/.

Family Educational Rights and Privacy Act (FERPA): Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course.
See http://registrar.illinois.edu/ferpa for more information on FERPA.

I-CAN Certificate Program

Additional courses:

ANSC 424: Pet Food and Feed Manufacturing (Fall semester)
Instructor: Dr. Maria Godoy

ANSC 526: Advanced Companion Animal Nutrition (Spring semester)
Instructors: Dr. Kelly Swanson and Dr. Maria Godoy

ANSC 499: Pet Food and Formulation, Regulation, and Market Trends (Under development)
Instructors: Dr. Maria Godoy and Dr. Kelly Swanson