AnSc 3704 Poultry Nutrition
SYLLABUS
3 Credits ; Summer 2024 ; COE Session 2

Instructors:
Dr. Elizabeth Bobeck, course coordinator; Iowa State University, eabobeck@iastate.edu
Dr. Carl Parsons, University of Illinois, poultry@illinois.edu
Dr. Caitlin Evans, AB Vista, Caitlin.Evans@abvista.com

General Scheduled Time/Dates:

Instructional Lecture:	Monday - Friday: 8:30 am – 12:00 pm
Hands-on Laboratory/Field/Farm (poultry) work:	Monday - Friday: 1:00 pm – 5:00 pm
Scheduled:	May 13th - May 24th, 2024

The total student-instructor contact hours is approximately 80 hours.

Locations:
Teaching – 125 ABLMS 1354 Eckles Avenue, Saint Paul, MN 55108 (On the left of Animal Science)
Teaching Lab afternoons– Poultry Teaching and Research Facility: 1835 Buford Pl, St. Paul, MN 55108

Office Hours:
Please request a meeting via email with each instructor as needed.

Course Description:
Develop a conceptual understanding of nutrient requirements and feed production for optimal growth and production of commercial poultry species. The use of computer programming for feed formulation is emphasized.

Student Outcomes:
At the completion of this course, students should be able to:
1. Understand fundamental concepts of metabolizable energy, protein/amino acids, minerals and vitamins, digestive physiology, and their application in commercial poultry nutrition.
2. Understand how to use computer programming for least cost formulation of diets for feed formulation.
3. Understand how to properly design and conduct poultry nutrition experiments and how to summarize and interpret the results of the experiments.
4. Understand basic and practical aspects of feed milling/manufacturing.
5. Understand feeding programs for organic poultry production and production of niche poultry products and the use of feed additives in these programs.

Grading:
Your final grade for this course is calculated from a total of 525 points. Point totals may change based on work assigned.

Quiz 1:	20 points
Quiz 2:	20 points
Quiz 3:	20 points
Exam 1:	100 points
Quiz 4:	20 points
Quiz 5:	20 points
Exam 2:	100 points
Mineral/Vitamin Presentation:	50 points
Lab Report Experiment 1:	25 points
Lab Report Experiment 2:	25 points

Nutrition Homework: Feed formulation 125 points

Final grades are assigned as follows:

Grade	Range	
A	100 %	to 93.0%
A-	< 93.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 83.0%
B-	< 83.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 73.0%
C-	< 73.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 63.0%
D-	< 63.0 %	to 60.0%
F	< 60.0 %	to 0.0%

Expectations:

Class participation is an important aspect of active learning and is directly beneficial to the student and their peers. The best way to get the most out of this class is participation, asking questions, and networking with your peers and guest speakers. The poultry industry is small and offers many job opportunities. As Poultry Science Departments and classes are disappearing across the country, this class is an excellent way to get your foot in the door to discover an interest you didn't know you had, or also help you find what you do not want to do for a career. When Canvas or any online/ email option is used to submit class work, it is the sole responsibility of the student to ensure documents are submitted on time and in a readable format. Any malfunction is the responsibility of the student and students must clearly communicate that the final form has been submitted when submitting over email.

The nitty gritty:

Missed in-class evaluation (quizzes and exams) cannot be made up and students will receive a zero. If you have an emergency, you must email the instructor before class or lab begins. Lab attendance will be monitored, and full participation is required. Early departure from lab is disrespectful to the instructor and peers and will not be tolerated. Late work is not accepted and will receive a zero. Syllabus and points awarded are subject to change.

Biosecurity:

We maintain a strict biosecurity policy of 72 hours without bird contact to enter the research and teaching facilities; this includes **commercial, research, hobby, or pet birds** that would interfere with compliance to the biosecurity policy. Please let me know if you have potential conflicts with this policy as soon as possible. Additionally, all students should wash hands after lab section to avoid self-contamination with communicable infectious diseases naturally harbored by poultry, including but not limited to: *Salmonella*, *E. coli*, *Campylobacter*, etc.

Labs and Field Trips:

This course involves both lecture and lab components. Transportation for off-campus field trips will be provided.

Photography:
Cell phone use or photography during lab is strictly prohibited. Any use of cell phones for any purpose during lab will result in removal of the student from the lab and forfeit of all points associated with that day.

Dress code:
Clean, close-toed shoes, and long pants. Clothes that have been in contact with other livestock or hobby animals must be laundered before being worn at any livestock farm. We are going to be working directly with poultry in many of the lab sections, so please be mindful you may get dirty.

Cell Phone policy:
It is expected of students not to utilize their cell phones during class or lab work, unless during a break period. Cell phone use is extremely distracting not only for the instructor but other classmates as well. COE is taking a strong stance on cell phone usage. If a student is found to be using a cellphone during class, the student will be given a verbal warning by the instructor. If the student is found to be using a cellphone for a second time, the COE administrative team will be informed and action will be taken. If you have a pre-determined call that you need to make or answer, please alert the instructor ahead of time.

Scholastic Dishonesty
You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: http://policy.umn.edu/education/instructorresp. The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Disability Accommodation
The University of Minnesota views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations. Students with short-term disabilities, such as a broken arm, **can** often work with instructors to **minimize** classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.

If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.

If you are registered with the DRC and have questions or concerns about your accommodations please contact your (access consultant/disability specialist).

Additional information is available on the DRC websiteUM Twin Cities - https://diversity.umn.edu/disability/) or e-mail (UM Twin Cities - drc@umn.edu) with questions.

Sexual Harassment
"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf

Equity, Diversity, Equal Opportunity, and Affirmative Action
The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf.

Mental Health and Stress Management
As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: http://www.mentalhealth.umn.edu.

Academic Freedom and Responsibility: *for courses that do not involve students in research*
Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. *

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost. *[Customize with names and contact information as appropriate for the course/college/campus.]*

Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".

SCHEDULE:

Date	Lecture/Lab	Topic	Instructor	Location
Week 1	**Week 1**	**Week 1**	**Week 1**	**Week 1**
M 5/13	Lecture 1	**9am-12pm** Energy	Dr. Parsons	125 ABLMS
M 5/13	Lab 1	**1:30-5pm** Experiments Study Guide Assign chick experiment groups Set up and start chick Experiment 1: DDGS	Dr. Parsons	1835 Buford Place Poultry Breeder Farm
T 5/14	Lecture 2	**8:30-9am** **Quiz 1** **9:00-noon** Protein and amino acids Assign mineral and vitamin presentation groups	Dr. Parsons	125 ABLMS
T 5/14	Lab 2	**1:30-5pm** Set up and start Experiment 2: lysine bioavailability PER Worksheet	Dr. Parsons	1835 Buford Place Poultry Breeder Farm
W 5/15	Lecture 3	**8:30-9am** **Quiz 2** **9:00-noon** Feed milling and manufacturing: Receiving/Grinding Batching/Mixing	Dr. Evans	125 ABLMS
W 5/15	Lab 3	**1:30-5pm** Feed milling and manufacturing: Conditioning/Pelleting PPLA **No poultry/livestock contact today**	Dr. Evans	125 ABLMS
Th 5/16	Lecture 4	**8:00am departure, meet outside of Haecker Hall.** Field trip to Cargill, Elk River	Dr. Evans and Dr. Bobeck	Haecker Hall
Th 5/17	Lab 4	**1:30-5pm** **Quiz 3** Digestive physiology Ingredients Ingredient quality	Dr. Bobeck	125 ABLMS

		Check chicks		
F 5/17	Lecture 5	**Exam 1 8:30-9:30am** **9:30-noon** Skeletal system Mineral Nutrition	Dr. Bobeck	125 ABLMS
F 5/17	Lab 5	**1-3pm** Feed formulation programming orientation Feed formulations 1 Check chicks	Dr. Bobeck	125 ABLMS
WEEKEND		*Students check chicks once daily on both days*		
Week 2	**Week 2**	**Week 2**	**Week 2**	**Week 2**
M 5/20	Lecture 6	**9:00am-noon** Feed additives Niche markets Organic production	Dr. Bobeck	125 ABLMS
M 5/20	Lab 6	**1-4pm** Feed formulations 2 **4-5pm** Take chicks off experiment 1 (feed and weigh)	Dr. Bobeck	125 ABLMS 1835 Buford Place Poultry Breeder Farm
T 5/21	Lecture 7	**8:30-9am** **Quiz 4** Commercial Nutrition Feed Formulation	Dr. Bobeck Dr. Kristjan Bregendahl Devenish Nutrition	125 ABLMS
T 5/21	Lab 7	**1:30-2:15 pm** Take chicks off experiment 2 (feed and weigh) **2:15 PM** Summarize performance data from chick Exp. 1 and 2 Tower Grove formulations	Dr. Bobeck Dr. Bobeck and Zoom w/ Dr. Parsons	1835 Buford Place Poultry Breeder Farm 125 ABLMS
W 5/22	Lecture 8	**8:30-9am** **Quiz 5** **9:00am- noon** Feed additives,microingredients ingredients	Dr. Bobeck Dr. Chastiy Pender; DSM	125 ABLMS
W 5/22	Lab 8	**1:30pm-5pm** Data calculations 1- Lysine bioavailability in	Dr. Bobeck and Zoom w/ Dr. Parsons	ZOOM 125 ABLMS

		chick Exp. 1 2- PER for chick Exp. 2 Work on presentations if time allows		
Th 5/23	Lecture 9	**9:00am-noon** Student vitamin presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	125 ABLMS Carl zoom
Th 5/23	Lab 9	**1:30-5pm** Feed formulations 3 and 4	Dr. Bobeck	125 ABLMS
F 5/24	Lecture 10	**9:00am-noon** Student mineral presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	125 ABLMS
F 5/24	Lab 10	**1pm-2:30** **Exam 2** **2:30-5p** Course wrap up	Dr. Bobeck	125 ABLMS

Please note: Quizzes will cover all new material since the last quiz during that week.
Exams cover material from that week only. Exam 1= week 1 material; Exam 2= week 2 material.

Once trials start, students expected to check in chicks once per day until trial ends- including weekend (need to coordinate with farm staff for key).