

AnSci 373D Poultry Nutrition
SYLLABUS
3 Credits; Summer 2025; 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 19th - May 30th, 2025
*No class on Memorial Day: Monday, May 26, 2025

Locations:

Lectures and some afternoon labs – Kildee Hall Room 203
Teaching Lab afternoons– Kildee Hall 203 and Hamilton Poultry Teaching and Research Facility: 3840 520th Ave, Ames, IA 50010. **Students will need to transport themselves to poultry facility when scheduled there for lab and for chick checks.**

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: Point totals may change based on work assigned.

20 points per quiz
100 points per exam
30 points per formulation homework
50 points for Mineral/Vitamin Presentation
25 points per lab experiment homework (math/calculations)

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 field trips will be provided with the exception of daily travel to Hamilton Poultry for class.

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.

Academic Honesty: All students are expected to practice academic honesty in every aspect of this course, including homework, quizzes, projects, and exams. Please familiarize yourself with the ISU Student Information Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures, as well as consequences regarding this course. Forms of academic dishonesty include but are not limited to copying course work (or allowing others to do so), paying or being paid for course work, or plagiarism. See the Conduct Code at <http://www.studentconduct.dso.iastate.edu/> for more details.

Students with special needs: Iowa State University complies with the American with Disabilities Act and Section 504 of the Rehabilitation Act. Any student who may require an accommodation under such provisions should contact me as soon as possible, as no retroactive accommodations will be provided in this class. You will need to provide documentation of your disability to the Student Disability Resources (SDR) office, located on the main floor of the Student Services Building, Room 1076, 515-294-7220.

Respect and Professionalism: You are expected to treat your instructor and all other participants in the course with courtesy and respect. Your comments to others should be factual, constructive, and free from harassing statements. You are encouraged to disagree with other students, but such disagreements need to be based upon facts and documentation (rather than prejudices and personalities). It is the instructor's goal to promote an atmosphere of mutual respect in the classroom. Please contact the instructor if you have suggestions for improving the classroom environment. It is preferable if students discuss issues directly with the instructor, however, students may also contact the instructor by email or leave a note in the instructor's mailbox.

Free Expression: Iowa State University supports and upholds the First Amendment protection of [freedom of speech](#) and the principle of [academic freedom](#) to foster a learning environment where open inquiry and the vigorous debate of a diversity of ideas are encouraged. Students will not be penalized for the content or viewpoints of their speech if student expression in a class context is germane to the subject matter of the class and conveyed in an appropriate manner.

Discrimination and Harassment: Iowa State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. Veteran. Students engaging in any negative behaviors in this class, or in Animal Science facilities, are subject to appropriate disciplinary action by the course instructor, and will also have their cases referred to the Dean of Students Office. Any student who has concerns about such behavior should contact the course instructor, [Student Assistance](#) at 515-294-1020 or email dso-sas@iastate.edu, or the [Office of Equal Opportunity and Compliance](#) at 515-294-7612.

Religious Accommodation: Iowa State University strives to reasonably accommodate students who's sincerely held religious beliefs or creed conflict with academic requirements. Accommodation requests must be made proactively. The process for requesting an accommodation is interactive and the process must be initiated by the

individual seeking the accommodation. For optimal consideration, students should inform instructors as soon as possible in the semester of a course conflict. It is recommended that the student and instructor discuss the request in person and then document the resolution in an email format. Assistance throughout the process for all parties involved is available through the [Office of Equal Opportunity](#) at 515-294-7612.

Disability Accommodation: Iowa State University is committed to assuring that all educational activities are free from discrimination and harassment based on disability status. Students requesting accommodations for a documented disability are required to meet with staff in Student Accessibility Services (SAS) to establish eligibility and learn about related processes. Eligible students will be provided with a Notification Letter for each course and reasonable accommodations will be arranged after timely delivery of the Notification Letter to the instructor. Students are encouraged to deliver Notification Letters as early in the semester as possible. SAS, a unit in the Dean of Students Office, is in room 1076 Student Services Building or online at www.sas.iastate.edu. Contact SAS by email at accessibility@iastate.edu or by phone at 515-294-7220 for additional information.

Academic Misconduct in any form is in violation of Iowa State University *Student Disciplinary Regulations* and will not be tolerated. This includes, but is not limited to: copying or sharing answers on tests or assignments, plagiarism, and having someone else do your academic work. Depending on the act, a student could receive a “0” grade on the test/assignment, “F” grade for the course, and could be suspended or expelled from the University. See the Conduct Code at www.dso.iastate.edu/ja

Contact Information: If you are experiencing, or have experienced, a problem with any of the above issues, email academicissues@iastate.edu.

CLASS SCHEDULE:

Date	Lecture/Lab	Topic	Instructor	Location
Week 1	Week 1	Week 1	Week 1	Week 1
M 5/19	Lecture 1	9am-12pm Energy	Dr. Parsons	203 Kildee
M 5/19	Lab 1	1:30-5pm Experiments Study Guide Assign chick experiment groups Set up and start chick Experiment 1: DDGS	Dr. Parsons Dr. Bobeck	Hamilton Poultry Farm Teaching Space 3840 520th Ave, Ames, IA 50010
T 5/20	Lecture 2	8:30-9am Quiz 1 9:00-noon Protein and amino acids Assign mineral and vitamin presentation groups	Dr. Parsons	203 Kildee
T 5/20	Lab 2	1:30-5pm Set up and start Experiment 2: lysine bioavailability PER Worksheet	Dr. Parsons Dr. Bobeck	Hamilton Poultry Farm Teaching Space 3840 520th Ave, Ames, IA 50010
W 5/21	Lecture 3	8:30-9am Quiz 2 9:00-noon Digestive physiology Ingredients Ingredient quality	Dr. Bobeck	203 Kildee
W 5/21	Lab 3	1:30-5pm Feed formulation programming orientation Feed formulations 1 Check chicks	Dr. Bobeck	203 Kildee
Th 5/22	Lecture 4	9:00am- noon Feed additives microingredients other non-nutritive ingredients	Dr. Chasity Pender, DSM	203 Kildee
Th 5/22	Lab 4	1:30-5pm Quiz 3 Commercial Nutrition Feed Formulation Check chicks	Dr. Bobeck Dr. Kristjan Bregendahl, Devenish Nutrition	203 Kildee

F 5/23	Lecture 5	8:30-9:30am Exam 1 9:30-noon Skeletal system Mineral Nutrition	Dr. Bobeck	203 Kildee
F 5/23	Lab 5	1-5pm Feed additives Niche markets Organic production Feed formulations 2 Check chicks	Dr. Bobeck	203 Kildee
<i>WEEKEND</i>		<i>Students check chicks once daily on both days</i>		
Week 2	Week 2	Week 2	Week 2	Week 2
M 5/26	NO CLASS	MEMORIAL DAY	NO CLASS	NO CLASS
T 5/27	Lecture 6	8:30am-9am Quiz 4 9am-noon Feed formulations 3 and 4	Dr. Bobeck	203 Kildee
T 5/27	Lab 6	1:30-2:15 pm Take chicks off experiment 1 and 2 (feed and weigh) 2:15pm (approximately) Summarize performance data from chick Exp. 1 and 2 Tower Grove formulations	Dr. Bobeck Dr. Bobeck and Zoom w/ Dr. Parsons	3840 520th Ave, Ames, IA 50010
W 5/28	Lecture 7	8:30-9am Quiz 5 Feed milling and manufacturing: Receiving/Grinding Batching/Mixing	[Dr. Bobeck] MC Dr. Evans	203 Kildee
W 5/28	Lab 7	1:30pm-5pm Data calculations 1- Lysine bioavailability in chick Exp. 1 2- PER for chick Exp. 2 Work on presentations if time allows	Zoom w/ Dr. Parsons MC	ZOOM 203 Kildee
Th 5/29	Lecture 8	9:00am-noon Feed milling and manufacturing:	Dr. Evans	203 Kildee

		Conditioning/Pelleting PPLA		
Th 5/29	Lab 8	1:30-5pm Student vitamin presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	203 Kildee
F 5/30	Lecture 9	9:00am-noon Student mineral presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	203 Kildee
F 5/30	Lab 9	1pm-2:00pm Exam 2 2:00-5pm Course wrap up	Dr. Bobeck	203 Kildee

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/ TA for building access).