

AnSci 3704 Poultry Nutrition
SYLLABUS
3 Credits ; Summer 2026 ; 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 18 th - May 29 th , 2026
	*No class on Memorial Day: Monday, May 25, 2026

Locations:

Lectures and some afternoon labs – Haecker Hall 365
Teaching Lab afternoons– Haecker Hall 365 and Veterinary Teaching Barns, Saint Paul. Veterinary Teaching Barn is within walking distance of HH365.

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 use of AI to complete coursework is forbidden.

Biosecurity

There should be absolutely no contact with poultry, swine, or any avian species for a minimum of 72 hours prior to farm visits. Students with pet birds need to make arrangements for the duration of the rotation. Students who fail to follow biosecurity protocols will be requested to be excused from participating in laboratory activities.

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](tel: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".*

Unforeseen Circumstances and Adaptation of the Syllabus

Note: Information in the syllabus is subject to change. Changes will be announced in class and posted on the course site on Canvas and/or emailed to students.

CLASS SCHEDULE:

Date	Lecture/Lab	Topic	Instructor	Location
Week 1	Week 1	Week 1	Week 1	Week 1
M 5/18	Lecture 1	9am-12pm Energy	Dr. Parsons	365 HH
M 5/18	Lab 1	1:30-5pm Experiments Study Guide Assign chick experiment groups Set up and start chick Experiment 1: DDGS	Dr. Parsons	Veterinary Teaching Barns, Saint Paul
T 5/19	Lecture 2	8:30-9am Quiz 1 9:00-noon Protein and amino acids Assign mineral and vitamin presentation groups	Dr. Parsons	365 HH
T 5/19	Lab 2	1:30-5pm Set up and start Experiment 2: lysine bioavailability PER Worksheet	Dr. Parsons	Veterinary Teaching Barns, Saint Paul
W 5/20	Lecture 3	8:30-9am Quiz 2 9:00-noon Digestive physiology Ingredients Ingredient quality	Dr. Bobeck	365 HH
W 5/20	Lab 3	1:30-5pm Feed formulation programming orientation Feed formulations 1 Check chicks	Dr. Bobeck	365 HH
Th 5/21	Lecture 4	9:00am- noon Feed additives microingredients other non-nutritive ingredients	Dr. Chasity Pender, DSM	365 HH
Th 5/21	Lab 4	1:30-5pm Quiz 3 Commercial Nutrition Feed Formulation Check chicks	Dr. Bobeck Dr. Kristjan Bregendahl, Devenish Nutrition	365 HH
F 5/22	Lecture 5	8:30-9:30am Exam 1	Dr. Bobeck	365 HH

		9:30-noon Skeletal system Mineral Nutrition		
F 5/22	Lab 5	1-5pm Feed additives Niche markets Organic production Feed formulations 2 Check chicks	Dr. Bobeck	365 HH
<i>WEEKEND</i>		<i>Students check chicks once daily over the weekend, PLUS Monday</i>		
Week 2	Week 2	Week 2	Week 2	Week 2
M 5/25	NO CLASS	MEMORIAL DAY	NO CLASS	NO CLASS
T 5/26	Lecture 6	9am-noon Feed formulations 3 and 4	Dr. Bobeck	365 HH
T 5/26	Lab 6	1:30-2:30 pm Take chicks off experiment 1 (feed and weigh) 2:30pm (approximately) Summarize performance data from chick Exp. 1 and 2 Tower Grove formulations	Dr. Bobeck Dr. Bobeck and Zoom w/ Dr. Parsons	Veterinary Teaching Barns, Saint Paul
W 5/27	Lecture 7	8:30-9am Quiz 4 9:00am-12:00pm Feed milling and manufacturing: Receiving/Grinding Batching/Mixing	Dr. Bobeck Dr. Evans	365 HH
W 5/27	Lab 7	1:30pm-2:30pm Take chicks off experiment 2 2:30-5pm Data calculations 1- Lysine bioavailability in chick Exp. 1 2- PER for chick Exp. 2 Work on presentations if time allows	Dr. Bobeck Zoom w/ Dr. Parsons	ZOOM 365 HH
Th 5/28	Lecture 8	8:30am-9:00am Quiz 5 9:00am-noon	Dr. Bobeck Dr. Evans	365 HH

		Feed milling and manufacturing: Conditioning/Pelleting PPLA		
Th 5/28	Lab 8	1:30-5pm Student vitamin presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	365 HH
F 5/29	Lecture 9	9:00am-noon Student mineral presentations	Dr. Bobeck and Zoom w/ Dr. Parsons	365 HH
F 5/29	Lab 9	1pm-2:00pm Exam 2 2:00-5pm Course wrap up	Dr. Bobeck	365 HH

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).