Life and Physical Sciences
Texas A&M University
Core Curriculum Cover Sheet
Initial Request for a course to be considered for the Fall 2014 Core Curriculum

1. This request is submitted by (department name): Poultry Science

2. Course prefix and number: POSC 201

3. Texas Common Course Number: AGRI 1327

4. Complete course title: General Avian Science

5. Semester credit hours: 3

6. This request is for consideration in the following Foundational Component Area:
   - ☒ Communication
   - ☐ Mathematics
   - ☒ Life and Physical Sciences
   - ☐ Language, Philosophy and Culture
   - ☐ Creative Arts
   - ☐ American History
   - ☐ Government/Political Science
   - ☐ Social and Behavioral Sciences

7. This course should also be considered for International and Cultural Diversity (ICD) designation:
   - ☐ Yes
   - ☒ No

8. How frequently will the class be offered?: Fall and Spring

9. Number of class sections per semester: 3 (2 regular lectures and 1 web based)

10. Number of students per semester: 186 average per semester

11. Historic annual enrollment for the last three years:
   - 2011-12: 390 students
   - 2010-11: 353 students
   - 2009-10: 313 students

This completed form must be attached to a course syllabus that sufficiently and specifically details the appropriate core objectives through multiple lectures, outside activities, assignments, etc. Representative from department: submitting request should be in attendance when considered by the Core Curriculum Council.

13. Submitted by:

   Course Instructor

   Date: 5/24/13

14. Approvals:

   Department Head

   Date: 5/24/2013

15. College Dean/Designee

   Date: 6/3/2013

For additional information regarding core curriculum, visit the Texas Higher Education Coordinating Board website at www.thecb.state.tx.us/corecurriculum2014

See form instructions for submission/approval process.
Texas A&M University
Core Curriculum
Initial Request for a Course Addition to the Fall 2014 Core Curriculum

Foundational Component Area: Life and Physical Sciences

In the box below, describe how this course meets the Foundational Component Area description for Life and Physical Sciences. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

How does the proposed course specifically address the Foundational Component Area definition above?

POSC 201 General Avian Science surveys the basic biology of avian species (anatomy, physiology, basic genetics), environmental sciences (feed source, water, light, temperature, atmosphere, nutrient elements) and disease and health factors that potentially impact the growth, development, fertility and productivity of wild and commercial poultry. Each topic begins with the fundamental scientific basis of the topic and, when appropriate, discusses the scientific method used to develop conclusions. Subsequent discussion, then follows to assess the impacts on avian species and practical application to enhance commercial production efficiency.

Core Objectives

Describe how the proposed course develops the required core objectives below by indicating how each learning objective will be addressed, what specific strategies will be used for each objective and how student learning of each objective will be evaluated.

Critical Thinking (to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information):

How Addressed
Students will develop critical thinking skills through integration of “structure-function” relationships, “anatomy/physiology-bird relationships”, “environment-performance” interactions, or deduction of effects from disease pathogenicity.

Strategies
Each topic will begin with discussion of the scientific background, followed by how this relates to biological effects and ultimately bird performance and health. Practical applications then follow. Examples would be:
Lectures on anatomy would begin with the description of system functionality such as functions of the avian digestive tract, which will be followed by a lecture on nutrient digestion, absorption, and utilization. Class discussion would focus on the specific requirements and purposes for specific nutrients such as carbohydrates and amino acids and how different birds, species and strains have different requirement based growth expectations and egg production followed by discussion of dietary formulations for different birds strains. These in-class discussions are used to stimulate critical thinking aimed at stimulating thoughts associated with inclusion/exclusion of dietary nutrients and what possible deficiencies might result. The lectures progress through the semester and each new topic builds on the previous allowing the student to evaluate environmental/nutritional/genetic effects on physiology and ultimately production performance.

How evaluated
Each exam will have questions formulated to test for the student’s ability to answer these types of questions.

Communication (to include effective development, interpretation and expression of ideas through written, oral and visual communication):
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How addressed
Active learning is used throughout the course, which includes classroom discussion with students. Students are provided questions or scenarios during the lecture followed by student discussion of the question/scenarios posed during the same lecture session and covering information that has just been provided.

Strategies
Students will be given real-world scenarios and questions throughout most lectures, which will be discussed during the lecture. Questions about current and perhaps controversial issues will be used to stimulate student thought, to reflect on the topic and reach a conclusion or stance. An example might be to consider “The impact of rearing conditions (free range vs convention) on avian health, well being, behavior, and production performance?” These questions typically cover information that is currently being discussed in the media such as animal rights, avian influenza, nutritional value of products produced under different rearing systems and the future of animal production systems. This has been an effective approach to stimulate students to express their thoughts and opinions and enables them to apply newly acquired knowledge to real world situations.

How evaluated
To ensure each student can independently express ideas, exams will include a discussion format evaluating the student’s ability to express concepts and personal views in writing. The student is not graded on the opinion portion of the answer, but rather was the information provided correct and clear.

Empirical and Quantitative Skills (to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions):

How addressed
The scientific basis of poultry science lends itself to quantitative or qualitative analysis. An example would be deductive reasoning to diagnose causal abiotic and biotic stress on avian health and performance.

Strategies
Students will develop basic quantitative skills in areas such as environmental and nutritional inputs on avian physiology and performance. Practical application may include mathematically calculating production and/or feed cost, egg production, and feed consumption. Students will use reasoning to identify potential nutrient deficiencies based on avian species and strain type.

How evaluated
Exam questions will be formulated to test the students ability solve problems, such as determining feed conversion ratio and egg production data from given scenarios.

Teamwork (to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal):

How addressed
The major pedagogical approach used in lecture includes active learning exercises with students. Real world scenarios will be used to initiate group discussions and allow immediate application of knowledge.

Strategies
Students will participate in group learning exercises, such as evaluating production in different rearing conditions given real world scenarios, determine observed genotypes given differing genetic mating’s, etc. Following these group
Course Syllabus
General Avian Science
POSC 201

Instructor: Jason Lee
103A Kleberg
845-1654
jlee@poultry.tamu.edu
Office hours by appointment

Class schedule: TR 9:35 – 10:50 AM Kleberg 117

Teaching Assistants: Mallori Williams
Joseph Klein
mpw032007@tamu.edu
joeklein07@tamu.edu

Course Description: Introduction to the poultry industry to include past, present and future industry dynamics; avian anatomy/physiology as they impact commercial production; management principals and practices of breeding, incubation, brooding, nutrition, disease control, and marketing technology

Course Learning Outcomes: At the completion of the course, each student will be able to summarize the complete structure of the three segments of the commercially poultry industry, define anatomy functions, describe current management practices to include housing, nutrition, reproduction, and disease management.

Core Objectives: Students in the course will be exposed to the following core objectives; Critical thinking, Communication, Empirical and Quantitative Skills, and Teamwork. Topics will outline the scientific background relating biological effects to avian health and production (critical thinking). Students will participate in classroom discussions that address current events covered in the media (communication). Empirical and quantitative skills will be evaluated by calculating production rates, ingredient inclusion rates, and feed efficiency ratios. Teamwork will be evaluated as small groups students will be given real world scenarios and asked to evaluate the situation and then lead a class discussion over given scenario.

Text: Poultry Science 4th ed. by Scanes, Brant, and Ensminger will be used as a source for supplemental reading by not as a mandatory text. Lecturer notes will be provided by the instructor, and will constitute the material you are held responsible for on exams.

Notes: Note packets are available at Copy Corner. Powerpoint slides will be available on elearning.

Grading Policy: A = 89.0 – 100, B = 79.0 – 89.4, C = 69.0 – 79.4, D = 59.0 – 69.4, F < 59.0

Exams: There will be three written, one-hour exams and a comprehensive, final exam. These tests will consist of multiple choice, short answer, and essay type questions. The instructor reserves the right to alter this policy at any time.

Quizzes: In addition to tests, there will be 5 quizzes given through out the semester each worth 20 points. The combined grade on these quizzes (a total of 100 points) will be used in the calculation of your final grade, but only if it helps your grade. They will not penalize you. Quizzes will be given via elearning.tamu.edu and will be available for you to take for a three to four day period once they are announced in class.
For example: A student that has test grades of 88, 91, 85, and 88 would have an average of 88 and earn a B for the course. The same student had quiz grades of 16, 20, 20, 20, and 20 for a total of 96. Since the quiz total was higher than the test average, it would be used to calculate the course average (88, 91, 85, 88, and 96(quiz total)) for an average of 89.6 earning the student an A for the course.

**Guest Speakers**
There is a possibility of having some guest lectures throughout the semester. If there is a guest speaker, there will be a question on the exam about the information discussed.

**Academic Integrity Statement**
"An Aggie does not lie, cheat, or steal or tolerate those who do."
Students can refer to [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor) for more information regarding the Aggie Honor Code.

Each test will include a statement stating:

"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

Signed by student

**Academic Dishonesty:** Students are expected to be the sole source for any work submitted in their name. The utilization or submission of work of others is a violation of Texas A&M University scholastic dishonesty policies and disciplinary steps will be taken. Only *authorized* electronic or printed materials or equipment may be used in or near the classroom. As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research and knowledge cannot be safely communicated.

If you have questions regarding plagiarism, please consult the latest issue of the *Texas A&M University Student Rules*, under the section “Scholastic Dishonesty.”

**Texas A&M Services for Students with Disabilities:** (845-1637) The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. Please contact the Department of Student Life, Services for Students with disabilities in Rm 126 of the Koldus Bldg, if you believe you have a disability requiring an accommodation, either temporary or permanent.

**Tentative Test Schedule**
- Test 1: February 21st
- Test 2: March 26th
- Test 3: April 25th
- Final: Friday May 3rd 12:30-2:30

**Tentative On-line Quiz Schedule**
- Feb, 5th - 8th
- March 5th - 8th
- March 19th - 22nd
- April 2nd - 5th
- April 16th - 19th
CLASS AND TEST SCHEDULE ARE SUBJECT TO CHANGE. IF A CHANGE HAS TO BE MADE, STUDENTS WILL BE NOTIFIED VIA EMAIL AS SOON AS POSSIBLE. IF A TEST DATE IS TO BE CHANGE, A MINIMUM OF 1 WEEK NOTICE WILL BE PROVIDED.
Course Schedule
Lecture 1 – Syllabus and Course Overview
Lecture 1-4
   Chapter 1 – History and Development of commercial Poultry Industry in the US
      • Broiler
      • Turkey
      • Egg Production

Lecture 5 12
Chapter 2 – Biological Systems of Birds
   • Lecture 5 - Skeletal and Muscle
   • Lecture 6 - Respiratory and Urinary
   • Lecture 7 - Integument and Circulatory
   • Lecture 8 - Digestive
   • Lecture 9 - Nervous
   • Lecture 10 - Endocrine
   • Lecture 11 and 12 - Reproductive

Lecture 13 and 14
Chapter 3 – Poultry Breeding
   • Qualitative genetics
   • Quantitative genetics
   • Sex linked genes

Lecture 15 and 16
Chapter 4 – Incubation and Hatchery Management
   • Factors effecting fertility and hatchability
   • Natural and Artificial Incubation
   • Single and Multistage Incubators
   • Hatchery Services

Lecture 17 and 18
Chapter 5 – Brooding and Rearing Management
   • Broilers
   • Layers
   • Turkeys
   • Breeders

Lecture 19
Chapter 6 – Poultry Housing and Equipment
   • Positive/Negative Air Pressure Systems

Lecture 20 and 21
Chapter 7 – Poultry Diseases
   • Biosecurity
   • Respiratory Diseases – Viral, Bacterial, and fungal
   • Tumor causing diseases
   • Protozoan
   • Bacterial
   • Viral