

# AVIAN SCIENCES (AVS)

## College of Agricultural & Environmental Sciences

### AVS 011 – Introduction to Poultry Science (3 units)

*Course Description:* The mosaic of events that have tied poultry science to other scientific disciplines and poultry to humans. Poultry science techniques and production methods from the time of domestication to the present. One field trip required.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 013 – Birds, Humans & the Environment (3 units)

*Course Description:* Interrelationships of the worlds of birds and humans. Lectures, discussions, field trips and projects focus on ecology, avian evolution, physiology, reproduction, flight, behavior, folklore, identification, ecotoxicology and conservation. Current environmental issues are emphasized. Half-day field trip.

*Learning Activities:* Lecture 2 hour(s), Discussion 1 hour(s).

*Enrollment Restriction(s):* Restricted to students with lower division standing.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE); Scientific Literacy (SL).

### AVS 014L – Management of Captive Birds (2 units)

*Course Description:* One weekly discussion and field trip to study practical captive management (housing, feeding, equipment, marketing, diseases). Visit facilities rearing birds such as commercial parrots, hobbyist exotics, ostrich, raptors, waterfowl, game birds, poultry and pigeons.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Fieldwork 3 hour(s), Lecture/Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 015L – Captive Raptor Management (2 units)

*Course Description:* Hands-on experience handling birds of prey. Students are taught all of the skills required to handle and care for raptors, including husbandry, biology, habitat requirements, cage design, veterinary care, rehabilitation methods, research potential and long-term care requirements. One Saturday fieldtrip.

*Learning Activities:* Laboratory 3 hour(s), Independent Study 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 016LA – Raptor Migration & Population Fluctuations (2 units)

*Course Description:* Identify raptors: study of effects of weather, crops, agricultural practices on fluctuations in raptor species and numbers. Familiarize with literature; design a project; survey study sites; collect, computerize, analyze data, compare with previous years. Species, observations, emphasis different each quarter. One Saturday field trip.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Fieldwork 3 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 016LB – Raptor Migration & Population Fluctuations (2 units)

*Course Description:* Identify raptors: study of effects of weather, crops, agricultural practices on fluctuations in raptor species and numbers.

Familiarize with literature; design a project; survey study sites; collect, computerize, analyze data, compare with previous years. Species, observations, emphasis different each quarter. One Saturday field trip.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Fieldwork 3 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 016LC – Raptor Migration & Population Fluctuations (2 units)

*Course Description:* Identify raptors: study of effects of weather, crops, agricultural practices on fluctuations in raptor species and numbers.

Familiarize with literature; design a project; survey study sites; collect, computerize, analyze data, compare with previous years. Species, observations, emphasis different each quarter. One Saturday field trip.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Fieldwork 3 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### AVS 092 – Internship in the Avian Sciences (1-12 units)

*Course Description:* Internship on and off campus in poultry, game birds or exotic bird production, management and research; or in a business, industry, or agency concerned with these entities. Compliance with Internship Approval form essential.

*Prerequisite(s):* Consent of instructor. Sophomore standing preferred.

*Learning Activities:* Variable 3-36 hour(s).

*Grade Mode:* Pass/No Pass only.

### AVS 098 – Directed Group Study (1-5 units)

*Course Description:* Directed group study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

### AVS 099 – Special Study for Undergraduates (1-5 units)

*Course Description:* Special study for undergraduates.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Grade Mode:* Pass/No Pass only.

### AVS 100 – Avian Biology (3 units)

*Course Description:* Biology of domesticated poultry, specifically chickens and turkeys. Avian genetics, immunology, reproduction, growth and development, broiler and layer management.

*Prerequisite(s):* BIS 002A; BIS 002B; ANS 002 preferred.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 103 – Avian Development & Genomics (3 units)**

*Course Description:* Unique features of avian development and genomics: Incubation; Staging; Egg Structure/Function; Fertilization; Pre-oviposital; Oviposition, Cold Torpor; Post-oviposital Development; Organogenesis, Growth; Sexual Differentiation; Extraembryonic Membranes; Mortality/Hatching; Genome Organization; Comparative Avian Genomics; Telomere Biology; Sex Chromosomes/Sex Determination; Advanced Technologies; Genome Manipulation; Mutations.

*Prerequisite(s):* BIS 002A; BIS 002B.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 115 – Raptor Biology (3 units)**

*Course Description:* Study of birds of prey: classification, distribution, habits, migration, unique anatomical and physiological adaptations, natural and captive breeding, health and diseases, environmental concerns, conservation, legal considerations, rehabilitation, and falconry. Includes two Saturday field trips.

*Prerequisite(s):* BIS 002A; or equivalent.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 121 – Avian Reproduction (2 units)**

*Course Description:* Breeding cycles and reproductive strategies, egg and sperm formation, incubation, sexual development, imprinting, hormonal control of reproductive behavior and song. Species coverage includes wild and companion birds. Course has a physiological orientation.

*Prerequisite(s):* BIS 002A; BIS 002B.

*Learning Activities:* Lecture 2 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE); Scientific Literacy (SL).

**AVS 123 – Management of Birds (3 units)**

*Course Description:* Captive propagation of birds, including reproduction, genetic management, health, feeding, artificial incubation, artificial insemination, and related legal aspects, including trade and smuggling. Emphasis on exotic species and the role of captive propagation in conservation.

*Prerequisite(s):* BIS 002A; BIS 002B.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE); Scientific Literacy (SL); Writing Experience (WE).

**AVS 149 – Egg Production Management (2 units)**

*Course Description:* Management of commercial table egg flocks as related to environment, nutrition, disease control, economics, housing, equipment, egg processing and raising replacement pullets. Offered in alternate years. One Saturday field trip required.

*Prerequisite(s):* AVS 011; or consent of instructor.

*Learning Activities:* Lecture 2 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 150 – Nutrition of Birds (1 unit)**

*Course Description:* Principles of nutrition specific to avian species, including feedstuffs, feed additives, nutrient metabolism, energy systems, and nutritional support of egg production and growth. Use of computers for feed formulation to support production.

*Prerequisite(s):* ABI 103 (can be concurrent) or BIS 103 (can be concurrent).

*Learning Activities:* Lecture 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE); Quantitative Literacy (QL).

**AVS 160 – Designing & Performing Experiments in Avian Sciences (2 units)**

*Course Description:* Experiments in current problems in avian biology. Introduction to experimental design. Students choose a project, design a protocol, perform an experiment and report their findings.

*Prerequisite(s):* AVS 100 or WFC 111; or consent of instructor.

*Learning Activities:* Laboratory 6 hour(s).

*Repeat Credit:* May be repeated with consent of instructor.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 170 – Advanced Avian Biology (4 units)**

*Course Description:* Ecology, behavior, functional morphology and lifehistory evolution of birds. Emphasis on the importance of body size as a principle determinant of most aspects of avian performance from lifespan to reproduction and species abundance. Analytical synthesis and critical thought emphasized.

*Prerequisite(s):* AVS 100 or WFC 111.

*Learning Activities:* Lecture/Discussion 3 hour(s), Project 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**AVS 190 – Seminar in Avian Sciences (1 unit)**

*Course Description:* Seminar in Avian Sciences.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Seminar 1 hour(s).

*Repeat Credit:* May be repeated 3 time(s).

*Grade Mode:* Pass/No Pass only.

**AVS 192 – Internship in Avian Sciences (1-12 units)**

*Course Description:* Internship on and off campus in poultry, game birds or exotic bird production, management and research; or in a business, industry, or agency concerned with these entities. Compliance with Internship Approval form essential.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Laboratory 3-36 hour(s).

*Grade Mode:* Pass/No Pass only.

**AVS 195 – Topics in Current Research (1-3 units)**

*Course Description:* Discussion of topics of current interest in avian sciences.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-3 hour(s).

*Repeat Credit:* May be repeated 3 time(s).

*Grade Mode:* Letter.

**AVS 197T – Tutoring in Avian Sciences (1-3 units)**

*Course Description:* Tutoring of students in lower division avian sciences courses; weekly conference with instructors in charge of courses; written critiques of teaching procedures.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Tutorial 1-3 hour(s).

*Grade Mode:* Pass/No Pass only.

**AVS 198 – Directed Group Study (1-5 units)**

*Course Description:* Directed group study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Enrollment Restriction(s):* Restricted to upper division students.

*Grade Mode:* Pass/No Pass only.

**AVS 199 – Special Study for Advanced Undergraduates (1-5 units)**

*Course Description:* Special study for advanced undergraduates.

*Learning Activities:* Variable 1-5 hour(s).

*Grade Mode:* Pass/No Pass only.

**AVS 203 – Advanced Avian Development & Genomics (1 unit)**

*Course Description:* In consultation with the instructor, students develop a lecture and associated instructional materials, i.e., lesson plan, including justification, reading and presentation and evaluation aids. Topic must complement a topic covered in AVS 103.

*Prerequisite(s):* AVS 103 (can be concurrent); graduate standing.

*Learning Activities:* Discussion 1 hour(s).

*Grade Mode:* Letter.

**AVS 290 – Seminar (1 unit)**

*Course Description:* Reports and discussions of recent advances and selected topics of current interest in avian genetics, physiology, nutrition, and poultry technology.

*Learning Activities:* Seminar 1 hour(s).

*Grade Mode:* Letter.

**AVS 290C – Research Conference (1 unit)**

*Course Description:* Major professors lead research discussions with their graduate students. Research papers are reviewed and project proposals presented and evaluated. Format will combine seminar and discussion.

*Prerequisite(s):* Consent of instructor; graduate standing.

*Learning Activities:* Discussion 1 hour(s).

*Grade Mode:* Satisfactory/Unsatisfactory only.

**AVS 297T – Supervised Teaching in Avian Sciences (1-4 units)**

*Course Description:* Tutoring of students in lower, upper division, and graduate courses in Avian Sciences; weekly conference with instructor in charge of course; written critiques of teaching methods in lectures and laboratories.

*Prerequisite(s):* Consent of instructor; graduate standing.

*Learning Activities:* Tutorial 1-4 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Satisfactory/Unsatisfactory only.

**AVS 298 – Group Study (1-5 units)**

*Course Description:* Group study.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-5 hour(s).

*Grade Mode:* Letter.

**AVS 299 – Research (1-12 units)**

*Course Description:* Research.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable 1-12 hour(s).

*Grade Mode:* Satisfactory/Unsatisfactory only.