

Term: 2023-24

Franklin Community High School

Advanced Animal Science

AGRI 107

Course Expectation:

It is my goal as a teacher to create a challenging learning environment where my students will be able to learn through a variety of teaching methods. Through my classes I want to increase my student's knowledge of Animal Science while also teaching valuable life skills that will be applicable in any chosen career field.

All school handbook policies and rules for grading scale, language, drink/snacks, dress codes, tardiness, discipline, technology policy and all other issues apply in this classroom.

Instructor Information:

Ms. Alicia Geesey

Ivy Tech Email: ageesey@ivytech.edu

317-346-8100 ext 8163

High School Email: geeseya@franklinschools.org

Onsite Campus Location:

Franklin Community High School

Room F122

2600 Cumberland Drive

Franklin, IN 46131

Campus Affiliated: Ivy Tech Columbus

Required Text and Materials:

Chromebook

Folder

Writing Utensil

Course Outline of Record

Course Title: Advanced Animal Science

Course Number: AGRI 107

Prerequisites: None

School: Advanced Manufacturing, Engineering & Applied Science

Program: Agriculture

Credit Hours: 3

Contact Hours: Lecture 3

Catalog Description:

Investigates concepts to understand animal life and science as it pertains to agriculture. Includes instruction and laboratories to recognize concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture.

Major Course Learning:

Upon successful completion of this course the student will be expected to:

1. Understand that organisms are classified, concentrating on a general survey of all living things, then specifically how certain characteristics categorize animals in a taxonomic key.
2. Connect basic concepts of chemistry, biochemistry, and biological functions to understand their relationship to the field of animal agricultural science.
3. Evaluate the major vertebrate animal organ systems to understand the role that the cells and their development play in the function of that system.
4. Apply theory of genetic diversity to understand biotechnological developments and ecological impacts.
5. Examine the scope of career opportunities and the importance of agriculture to the economy.

Course Content:

Topical areas of study include –

Taxonomy and Classification

- Features and characteristics of fish, birds, and mammals
- Hierarchical taxonomy
- Kingdoms of organisms
- Taxonomic key

Molecules and Cells

- Animal, plant, and bacterial cells
- ATP and ADP
- Cell communication
- Cell differentiation
- Cell duplication
- Cell life span
- Cell membranes
- Cell parts
- Cell theory
- Cell types and movement
- Cellular respiration
- Chemical bonds: hydrogen, ionic, and covalent
- DNA

- Energy exchange and conversion
- Enzyme role
- Essential and non-essential nutrients
- Gene expression
- Genomes
- Hydrophilic vs. hydrophobic and polar vs. nonpolar
- Hydroxyl, amino, and carboxyl groups
- Macromolecules
- Monomers, polymers, condensation, and hydrolysis
- Osmosis
- Permeability
- Single and double bonds
- Solutes, solvents, and saturation
- Valence electrons

Development and Function of Animal Organ Systems

- Animal health
- Bone formation
- Breeding systems
- Chemical processes
- Defense mechanism
- Digestive system
- Endocrine system (including hormones)
- Homeostasis
- Immune system
- Muscle function
- Nervous system
- Organ system communication
- Organization
- Organogenesis
- Reproductive system
- Respiratory system
- Sexual maturation
- Technology applications
- Tissue types

Animal Genetics and the Environment

- Autosomes and sex chromosomes
- Biotechnology
- Cloning
- Darwin principles
- DNA replication
- Domestication
- Environmental impacts
- Evolutionary forces

- Genetic diversity
- Genotype and phenotype
- Growth curves and ecosystems
- Hardy-Weinberg Principle
- Human impact
- Inbreeding
- Meiosis and mitosis
- Mendelian theory
- Nutrient cycles
- Protein synthesis
- Relationship between genes and alleles
- Sexual and asexual reproduction
- Types of selection

Careers

- Animal agriculture and animal agribusiness
- Organizational performance
- Organizational structures
- Successful career characteristics

ADA Statement:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.

Code of Student Rights and Responsibilities:

Students can review their rights and responsibilities as an Ivy Tech Community College dual credit student here:

<https://www.ivytech.edu/studentcode/index.html>

Attendance Policy:

Students are expected to attend and participate regularly in class meetings, online learning activities and other activities assigned as a part of a course of instruction. Faculty are required to report student participation in compliance with institutional policies and federal financial aid guidelines. Faculty and staff shall be sensitive to students' religious beliefs and observances, including an expectation that instructors make reasonable arrangements when a student must miss an exam or other academic exercise due to their religious observance. When notified in advance, and when possible, faculty will make allowances for students to make up missed work.

Late Work and Make Up Policy:

Late work will be accepted, with a 10% deduction per week late.

Drop Process and Responsibility:

Each course withdrawal required the student to submit a [High School-Based Dual Credit Drop Form](#) for their instructor's signature to record the last date of attendance. The last date to withdraw from this course is 75% of the Ivy Tech's term. See your local K-14 staff for more specific drop dates.

Methods of Instruction:

Instruction in Advanced Animal Science will be a combination of lecture, discussion, projects, labs, and observations.

Grading Scale:

Ivy Tech Grading Scale must be followed for grades submitted for the students dually enrolled in the high school and Ivy Tech course:

A.....90-100

B.....80-89

C.....70-79

D.....60-69

F.....0-59

Accessing Grades:

Course grades are available for students by logging into Ivy Tech's online student system called, [MyIvy](#), at the following address: <https://myivy.ivytech.edu/>. Ivy Tech will not distribute grades by mail, you will need to look up your grades in your MyIvy account. There may be a waiting period of 30 days from the end of the high school semester to obtain grades through MyIvy. If you'd like to order an official transcript, check your unofficial transcript first and then order your official Ivy Tech transcript through MyIvy by taking the following steps:

Step 1: Login into your MyIvy account (myivy.ivytech.edu)

Step 2: Select "**Student**" on the left hand side.

Step 3: Select "**Course Info**"

Step 4: Then select "**Request Official Transcripts**"

If you no longer have access to MyIvy because you have not attended in two or more years, click here

(https://exchange.parchment.com/send/adds/index.php?main_page=login&s_id=9Su8AzIbYotFX)

fOT) to request your transcript online. You will need to **Create an Account with Parchment Exchange** if you haven't already done so. Should you need to reset your password, you will click on **"Forgot Your Password."**

Virtual Library

The Ivy Tech Virtual Library is available to students on and off campus. The virtual library includes over 40,000 digital materials, offering full-text journals and books and other resources essential for course assignments. The Virtual Library can be found under the "Library" tab of your MyIvy account: <https://myivy.ivytech.edu>

Ivy Tech Technical Support: Help Desk

Phone: 1-888-IVY-LINE (1-888-489-5463), select option 4

Student Help Center: <http://ivytech.edusupportcenter.com>

Submit a Help Ticket: <https://helpdesk.ivytech.edu/SelfService/Create.html>

Academic Honesty Statement:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement. Cheating on papers, tests or other academic works is a violation of College rules.

No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior

Copyright Statement: Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contains nothing unlawful, unethical, or libelous and do not constitute any violation of any right of privacy.

Course Communication:

Students are expected to uphold their responsibilities in terms of appropriate and professional communication with faculty and peers. Please review the 'Students Rights and Responsibilities' section of the student handbook (located in MyIvy) and review common netiquette (Internet etiquette) practices, like those found at: <http://www.ivytech.edu/online/resources.html>

Activities and Course Schedule:

First Semester Topics

- Taxonomy & Classification
- Molecules & Cells
 - Organic
 - Types and bonds
 - Functions
 - Communicate & Differentiate
- Animal Organ Systems
 - Identify and understand the system functions

Second Semester Topics

- Animal Management
 - Reproduction
 - Disease & Parasites
 - Advantages & Disadvantages
- Animal Genetics
 - DNA & Evolutionary forces
 - Selection & Breeding
 - Reproduction
 - Ecosystem & Growth
- Leadership
 - Animal Selection
 - Communication
 - SAE
- Careers
 - Animal Industry
 - Skills
 - Post-secondary

Right of Revision

The instructor reserves the right to change any statements, policies or scheduling as necessary. Students will be informed promptly of any and all changes.