

CASE Major Concepts

Concepts are the principles, theories, and recurring themes important to a student's understanding of a CASE course of study. Teachers use concepts to define what students are learning. In CASE curricula, each lesson has a list of concepts directly related to that lesson's major topics. Major concepts reach beyond a lesson and are emphasized in all CASE courses. The following major concepts are underlying themes throughout CASE curricula.

1. Agriculture, food, and natural resources systems produce the food, fiber, and fuel essential to daily life and contribute to the nation's economic wealth.
2. Individuals who pursue a program of study in agricultural education will benefit from leadership development, personal growth, and career exploration.
3. Agricultural science and engineering contribute to the development, improvement, and sustainability of living things.
4. Agricultural education establishes a relevant setting for applying mathematical practices and principles.
5. Effective interpersonal communication skills facilitate group processes and aid in solving complex problems and the achievement of common goals.
6. Reading and writing interpretation skills are necessary for educational and professional development.
7. Safety is an attitude of personal responsibility that students must practice in the agricultural classroom, laboratory, shop, greenhouse, and facilities.
8. Inquiry activities are essential in the practice of scientific processes and the world of research.
9. The use of technology and computer applications is critical to modern agricultural practices.
10. The ethical, environmental, social, and economic impacts of agricultural practices are essential to being a responsible, involved citizen.
11. Individuals involved with agricultural production processes must be proficient when performing technical skills.
12. Critical thinking involves using a variety of problem-solving techniques in real-life contexts.

Course Description

The major focus of the *Principles of Agricultural Science – Animal* (ASA) course is to expose students to agriculture, animal science, and related career options. Students participating in the ASA course will have experiences in various animal science concepts with exciting hands-on activities, projects, and problems. Students' experiences will involve the study of animal anatomy, physiology, behavior, nutrition, reproduction, health, selection, and marketing. For example, students will acquire skills in meeting the nutritional needs of animals while developing balanced, economical rations. Throughout the course, students will consider the perceptions and preferences of individuals within local, regional, and world markets.

Students will explore hands-on projects and activities to learn the characteristics of animal science and work on major projects and problems similar to those that animal science specialists, such as veterinarians, zoologists, livestock producers, and industry personnel, face in their respective careers.

In addition, students will understand specific connections between animal science lessons and Supervised Agricultural Experience and FFA components that are important for the development of an informed agricultural education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community.

The ASA course of study includes:

- Background and Social Issues of Animal Science
- Anatomy and Physiology
- Nutrition
- Reproduction
- Genetics
- Animal Health
- Animal Selection