

AGRICULTURE

Animal Sciences Pathway

Animal Science expands farther than veterinary sciences. Students in the animal science pathway will get hands on experience working with animals. Students will practice veterinary procedures, hear from professionals in the field, and work in a hands-on environment with animals. By taking all animal science courses, students will have a well-rounded understanding of the animal industry.

Careers Related to Animal Sciences:

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- | | |
|---------------------------------|---------------------------|
| ✓ Animal Nutritionist | ✓ Feed Sales |
| ✓ Veterinarian | ✓ Zoologist |
| ✓ Vet Tech | ✓ Wildlife Rehabilitation |
| ✓ Herd Manager | ✓ Habitat Specialists |
| ✓ Food/Meat Product Development | |

Example: Four-Year Course Plan

Freshman Year	Principles of Agriculture
Sophomore Year	Animal Science
Junior Year	Advanced Life Science: Animals
Senior Year	Agribusiness Management

Plant Sciences Pathway

Plant Science expands farther than having a garden. Students in the plant science pathway will get hands on experience working with plants, seeds, and soil. Students will practice managing a greenhouse, hear from professionals in the field, and work in a hands-on environment with plants. By taking all plant science courses, students will have a well-rounded understanding of the plant industry.

Careers Related to Animal Sciences:

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- | | |
|---------------------------|-------------------|
| ✓ Botanist | ✓ Soil Scientist |
| ✓ Plant Pathologist | ✓ Agronomist |
| ✓ Landscape Architect | ✓ Ecologist |
| ✓ Plant Geneticist | ✓ Floral Designer |
| ✓ Environmental Scientist | |

Example: Four-Year Course Plan

Freshman Year	Principles of Agriculture
Sophomore Year	Horticulture Science or Plant & Soil Science
Junior Year	Horticulture Science or Plant & Soil Science
Senior Year	Agribusiness Management

7117 ** PRINCIPLES OF AGRICULTURE – (9, 10, 11, 12) The nature of this course is to provide students with an introduction to the fundamentals of agricultural science and business. Topics to be covered include: animal science, plant and soil science, food science, horticultural science, agricultural business management, landscape management, natural resources, agriculture power, structure and technology, leadership development, supervised agricultural experience and career opportunities in the area of agriculture, food and natural resources. **This is a dual credit course through Ivy Tech. This is a prerequisite for most agriculture courses.**

5008 ANIMAL SCIENCE - (10, 11, 12) Students participate in a large variety of activities and laboratory work including real and simulated animal science experiences and projects. All areas that the students study can be applied to both large and small animals. Topics to be addressed include: anatomy and physiology, genetics, reproduction, nutrition, common diseases and parasites, social and political issues related to the industry and management practices for the care and maintenance of animals while incorporating leadership development, supervised agricultural experience and learning about career opportunities in the area of animal science. **]This is a dual credit course through Ivy Tech.**

5070 ADVANCED LIFE SCIENCE: ANIMALS (10, 11, 12) Advanced Life Science, Animals, is a standards-based interdisciplinary science course, geared to college bound and honors level students that integrates biology, chemistry and microbiology in an agricultural context. Students investigate concepts that enable them to understand animal life and animal science as it pertains to agriculture. Through instruction, including laboratory, fieldwork, leadership development, supervised agricultural experience and the exploration of career opportunities, they will recognize concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, and ecology, historical and current issues in animal agriculture in the area of advanced life science in animals. This year-long course qualifies as a 3rd science credit towards an Academic Honors Diploma. Complete your science credits in a new and exciting way! This course provides excellent preparation for Purdue University's Advanced Credit Examination, which could allow students who excel the opportunity to earn college credit through Purdue University. **This is a dual credit course through Ivy Tech. Requirement: Successful completion of two of the following: Biology, Chemistry or ICP.**

5132 HORTICULTURE SCIENCE (10, 11, 12) This is a yearlong course. This course is designed to give students a background in the field of horticultural plants and products. Topics covered include: reproduction and propagation of plants, plant growth, growth media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest and pest management. Students participate in a variety of activities to include extensive laboratory work usually in a school greenhouse, leadership development, supervised agricultural experience and learning about career opportunities in the area of horticulture science. **Prerequisite: Principles of Agriculture.**

5180 NATURAL RESOURCES (10, 11, 12). This course is a year long class that provides students with a foundation in natural resources. Hands-on learning activities in addition to leadership development, supervised agricultural experience and career exploration encourage students to investigate areas of environmental concern. Students are introduced to the following areas of natural resources: soils, the water cycle, air quality, outdoor recreation, forestry, rangelands, wetlands, animal wildlife and safety. **Prerequisite: Principles of Agriculture.**

5072 PLANT & SOIL SCIENCE (10, 11, 12) This two-semester course provides students with opportunities to participate in a variety of activities including laboratory and field work. Coursework includes hands-on learning activities that encourage students to investigate areas of plant and soil science. Students are introduced to the following areas of plant and soil science: plant growth, reproduction and propagation, photosynthesis and respiration, diseases and pests of plants and their management, biotechnology, the basic components and types of soil, soil tillage, and conservation. Counts as a Science credit for all diplomas. **Prerequisite: Principles of Agriculture**

5228 SUPERVISED AGRICULTURAL EXPERIENCE (10, 11, 12) This year long course is designed to provide students with opportunities to gain experience in the agriculture field in which they are interested and can be taken multiple years. Students should experience and apply what is learned in the classroom, laboratory and training site to real-life situations. Students work closely with their agricultural science and business teacher(s), parents and/or employers to get the most out of their SAE program. This course can be offered each year as well as during the summer session. SAE may be offered as a Cooperative Education Program. Curriculum content and competencies should be varied so that school year and summer session experiences are not duplicated. **Prerequisite: Principles of Agriculture.** [Watch this course video to learn more about the course!](#)

5002 AGRIBUSINESS MANAGEMENT (11, 12) Agribusiness Management provides foundation concepts in agricultural business. It is a two semester course that introduces students to the principles of business organization and management from a local and global perspective, with the utilization of technology. Concepts covered in the course include; accounting and record keeping, business planning and management, food and fiber, forms of business, finance, management, sales and marketing, careers, leadership development. Students will demonstrate principles and techniques for planning, development, application and management of agribusiness systems through a supervised agriculture experience (work based learning) programs. **Prerequisite: Principles of Agriculture.** [Watch this course video to learn more about the course!](#)