

## **AGRISCIENCE DEPARTMENT**

### **Advanced Life Science: Animals (L) 5070**

AGH340, AGH341

CIP Code 26.0701

- Grades 11-12
- 2 semesters, 2 credits (weighted)
- **Dual credit and weighted grade**
- Recommended Prerequisites: Introduction to Agriculture, Food, and Natural Resources, Biology, and Chemistry
- Fulfills a Core 40 Science requirement for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas or counts as an Elective or Directed Elective for any diploma
- Qualifies as a quantitative reasoning course

Advanced Life Science: Animals provides students with opportunities to participate in a variety of activities including laboratory work. 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, ecology, and historical and current issues in animal agriculture in the area of advanced life science in animals.

### **Agribusiness Management 5002**

AGH300, AGH301

CIP Code 01.0102

- Grades 11-12
- 1 credit per semester; maximum of 2 semesters and 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas
- Qualifies as a quantitative reasoning course

Agribusiness Management provides foundational concepts in agricultural business. This course introduces students to the principles of business organization and management from a local and global perspective while incorporating technology. Concepts covered in the course include food and fiber, forms of business, finance, marketing, management, sales, leadership development, and supervised agricultural experience career opportunities in the area of agribusiness management.

### **Agricultural Power, Structure, and Technology 5088**

AGH322, AGH323

CIP Code 01.0201

- Grades 10-12
- 2 semesters, 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Instructor approval is required
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Agricultural Power, Structure, and Technology is a lab intensive course in which students develop an understanding of basic principles of selection, operation, maintenance, and management of agricultural equipment while incorporating technology. Topics covered include: safety, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture power, structure, and technology. A large portion of the lab time will be spent practicing stick welding, MIG welding, plasma cutting, and use of the Oxyacetylene cutting torch. Students are expected to spend the lab time practicing. Repetitive practice leads to success in a welding career. Welding is a hand eye coordination exercise and involves hot and dirty work in preparing the metal and the actual welding.

### **Animal Science 5008**

AGH220, AGH221

CIP Code 01.0901

- Grades 9-12
- 2 semesters, 2 credits

- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Animal Science provides students with an overview of the field of animal science. 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.

### **Food Science 5102**

AGH330, AGH331

CIP Code 01.0401

- Grades 9-12
- 2 semesters, 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Food Science provides students with an overview of food science and its importance. Introduction to principles of food processing, food chemistry and physics, nutrition, food microbiology, preservation, packaging and labeling, food commodities, food regulations, and issues and careers in the food science industry help students understand the role that food science plays in securing a safe, nutritious, and adequate food supply. A project-based approach is utilized along with laboratory, team building, and problem solving activities to enhance student learning, leadership development, supervised agricultural experience, and career opportunities in the area of food science.

### **Horticultural Science 5132**

AGH211, AGH212

CIP Code 01.0603

- Grades 9-12
- 2 semesters, 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Horticulture Science is a 2 semester course designed to give students a background in the field of horticulture and its many career opportunities. It addresses the biology and technology involved in the production, processing, and marketing 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.

### **Introduction to Agriculture, Food, and Natural Resources 5056**

AGH102, AGH103

CIP Code 01.0101

- Grade 9
- 2 semesters, 2 credits
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Introduction to Agriculture, Food, and Natural Resources is highly recommended as a prerequisite and foundation for all other agricultural classes. 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 management, agricultural power, structures and technology, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture, food, and natural resources.

**Landscape Management 5136**

AGH310, AGH311

CIP Code 01.0605

- Grades 9-12
- 2 semesters, 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food, and Natural Resources
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas
- Qualifies as a quantitative reasoning course

Landscape Management I provides the student with an overview of the many career opportunities in the diverse field of landscape management. Students are introduced to the procedures used in the planning and design of a landscape using current technology practices, the principles and procedures of landscape construction, the determination of maintenance schedules, communications and management skills necessary in landscaping operations, and the care and use of equipment utilized by landscapers. Students will also participate in leadership development, supervised agricultural experience and career exploration activities in the area of landscape management. Upon completion of the program, students have the opportunity to become Indiana Landscape Industry Certified through a state approved program.

**Plant and Soil Science 5170**

AGH334, AGH335

CIP Code 01.1102

- Grades 9-12
- 2 semesters, 2 credits
- Recommended Prerequisite: Introduction to Agriculture, Food and Natural Resources
- Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors diplomas

Plant and Soil Science provides students with opportunities to participate in a variety of activities that include laboratory work. The following topics are found in this course: plant taxonomy, components, and their functions; plant growth, reproduction, and propagation; photosynthesis and respiration; environmental factors affecting plant growth; management of plant diseases and pests; biotechnology; the basic components and types of soil; calculation of fertilizer application rates and procedures for application; soil tillage and conservation; irrigation and drainage; land measurement, cropping systems, precision agriculture, principles, and benefits of global positioning systems; and harvesting. Leadership development, supervised agricultural experience, and career exploration opportunities in the field of plant and soil science are also included.