

AGRICULTURE/HORTICULTURE DEPARTMENT

Preparing Today's Students for Tomorrow's Challenges

Agriculture Education

- Integrates academic with experiential learning.
- Develops self-esteem and critical thinking skills.
- Provides excellent scholarship and career opportunities.



Opportunities

- The U.S. Department of Agriculture projects an annual shortage of 3,000 agricultural college graduates for some 46,000 jobs.
- Tomorrow's most exciting careers begin with agricultural education and FFA.
- You can make it happen by introducing yourself to the exciting world of FFA and agricultural education.



Careers

- Nearly 20 percent of all jobs in the United States are in agriculture and life sciences.
- In fact, agriculture is our nation's largest employer.
- Agriculturally related jobs comprise 17 percent of employment in metropolitan areas.
- From forestry to finance and sales to science, agriculture offers the career choice.
- Today's agriculture includes biotechnology, international marketing, genetics, engineering, food science, computer technology, horticulture, communications, medicine, the environment, and much more.

FFA

- FFA gives students the chance to push themselves to excel.
- FFA members develop leadership and communication skills.
- FFA members develop self-confidence.
- Almost ninety percent of FFA members pursue post-secondary education.
- Over half of all graduating FFA members will attend a four-year college or university.

AGRICULTURE

AGR 053 INTRO TO AGRICULTURAL INDUSTRY

(Yearly 1 Credit) (9, 10)

This course introduces students to the agricultural industry, the history and importance of agriculture, and how the industry is organized; agriculture's major components and basic concepts; the economic influence of agriculture at the local, state, national and international levels, and the scope and types of career opportunities available in the field of agriculture. Areas of study include concepts in basic animal science, basic agricultural mechanization, basic science and technology in agriculture, agricultural occupations, basic soil science principles, basic food science technology, wildlife ecology, basic horticulture and landscaping, hydroponics, aquaculture, computer applications in agriculture and the history and organization of the FFA. Students will have the opportunity to attend field trips and participate in FFA activities, judging contests at the state and national levels, public speaking, and state and national conventions.

AGR 153 AGRICULTURAL SCIENCE

(Yearly 1 Credit) (10, 11, 12)

This course is designed to be a practical and applied study of the agricultural sciences. Computer applications are utilized as they relate to each instructional unit. Areas of study include concepts in animal nutrition, meat science, dairy science, animal anatomy and physiology, animal breeding and reproduction, caring for large and small animals, environmental requirements of animals, the animal production industry, aquaculture, hydroponics, agriculture and the environment, the role of agricultural research, basic principles of electricity, agricultural mechanization, computers, agricultural career opportunities, soil fertility and conservation, biotechnology in agriculture, agricultural economics and the FFA. Students will have the opportunity to attend field trips and to participate in FFA activities, judging contests at the state and national levels, public speaking, and state and national conventions.

AGR 203 AGRIBUSINESS OPERATIONS

(Yearly 1 Credit) (11, 12)

This course is designed to introduce the student to the vast area of agribusiness. Over two-thirds of the job opportunities in Illinois and over one-third of the job opportunities in the United States, are directly related to agriculture. This course will focus on the skills necessary to successfully compete and operate in the business world. Areas of study include the role of agriculture in society, organizing, financing and operating the agribusiness,

advertising and selling agricultural products, managing your rural business, marketing and processing, agricultural business procedures, computers in the agricultural business, marketing and processing agricultural products, gaining employment, pesticide use, food science technology, plant and soil science, agricultural engineering and mechanization and horticulture. Students will have the opportunity to attend field trips and participate in FFA activities, judging contests at the state and national levels, public speaking, and state and national conventions.

AGR 253 AGRIBUSINESS MANAGEMENT

(Yearly 1 Credit) (11, 12)

This course is designed to develop the students' business and managerial skills. Students will develop the decision making and entrepreneurial skills necessary for the operation of a successful business. Areas of study include the impact of technology on agriculture, keeping and using records, economic principles, basic business organization, financing the business, agricultural law, insuring the business, career establishment in an agricultural occupation, computer applications, marketing agricultural products and services, aquaculture, wildlife conservation, economic principles of livestock production, food science, genetics applications in agriculture, advanced care and health management of animals and their environment, and agricultural engineering and mechanization. Students will have the opportunity to attend field trips and participate in FFA activities, judging contests at the state and national levels, public speaking, and state and national conventions.

AGR 273 AGRICULTURAL MECHANICAL TECHNOLOGY

(Yearly 1 Credit) (11, 12)

Agricultural Mechanical Technology is a course designed to give students the basic mechanical skills and competencies needed to work in the Agriculture/Horticulture industry. Areas of mechanical instruction will include: Welding; Electrical Wiring; Carpentry; Small Engine Maintenance and Repair; Surveying; Global Positioning Systems; and Masonry. Students will gain a basic understanding of the mechanical concepts in the classroom as well as develop mechanical skills through hands-on instruction in the lab. Safety will always be a major component of classroom and lab instruction.

AGRICULTURE

AGR 303 ORNAMENTAL HORTICULTURE (Yearly 1 Credit) (11, 12)

This course is designed to give the student a thorough background in the horticultural sciences. It will focus on horticultural production, floral design, the theory and operation of greenhouses, and landscape and turf management. The horticultural industry has been identified as one of the fastest growing segments of the corporate and business world. Areas of study include plant propagation, plant anatomy and physiology, plant processing, hydroponics, soil fertility and artificial growing media, designing building and operating horticultural structures, landscaping, floral design, growing and processing fruits and vegetables, maintaining equipment, watering, fertilization, insect and disease control, producing nursery plants, establishing, maintaining and designing landscape plantings, establishing and maintaining turfgrass, and business operation and management. Computers will be used in landscape design and decision making.

AGR 331 BIOLOGICAL SCIENCE SCI 331 APPLICATIONS IN AGRICULTURE - PLANT SCIENCE - BSAA I

(Semester 1/2 Credit) (11, 12) - This course does not meet NCAA requirements for college athletics.

Prerequisites: *Biology and Algebra*

BSAA is designed to reinforce and extend students' understanding of science by associating basic scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of plant growth for agricultural management decisions. This course will use numerous laboratory experiments and exercises as the main instruction tool. Topics of instruction will include: environmental regulation, chemical applications, hydroponics, seed inoculation and growth regulation. Students can also establish a supervised agricultural experience program and participate in FFA activities. This course should be taken in combination with BSAAII - Animal Science.

AGR 332 BIOLOGICAL SCIENCE SCI 332 APPLICATIONS IN AGRICULTURE - ANIMAL SCIENCE - BSAA II

(Semester 1/2 Credit) (11, 12) - This course does not meet NCAA requirements for college athletics.

Prerequisites: *BSAA I, Biology and Algebra*

BSAA II is an extension of BSAA I. This course is designed to reinforce and extend students' understanding of science by associating basic scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of animal agriculture and specific biological science concepts that govern management decisions in the animal industry. This course will use numerous laboratory experiments and exercises as the main instruction tool. Topics of instruction will include: animal genetics and biotechnology; hatching, nutrition, and pecking order of chicks; vital signs; growth hormones; artificial insemination; aquaculture; and processing of animal products. Students can also establish a supervised agricultural experience program and participate in FFA activities. This course should be taken in combination with BSAA I - Plant Science.

AGR 401 PHYSICAL SCIENCE APPLICATIONS IN AGRICULTURE I - PSAA I

(Semester 1/2 Credit) (11, 12) - This course does not meet NCAA requirements for college athletics.

Prerequisites: *Biology and Algebra*

PSAA is a course which reinforces and extends students' understanding of science and the scientific process by associating scientific principles and concepts with relevant applications in agriculture. Students will examine specific agricultural applications and processes and the underlying science principles explaining or controlling those applications. This course will use numerous laboratory exercises and experiments as the major tool of instruction. Topics of instruction will include factors affecting nitrates in ground water, surface drainage, heat transfer, Ohm's law and solid food rheology. Students can also establish a supervised agricultural experience program and participate in FFA activities. This course should be taken in combination with PSAA II of BSAA I.

AGRICULTURE

AGR 402 PHYSICAL SCIENCE APPLICATIONS IN AGRICULTURE II - PSAA II

(Semester 1/2 Credit) (11, 12) - This course does not meet NCAA requirements for college athletics.

Prerequisites: *PSAA I, Biology, and Algebra*

PSAA II is an extension of PSAA I. This course reinforces and extends students' understanding of science and the scientific process by associating scientific principles and concepts with relevant applications in agriculture. Students will examine specific agricultural applications and processes and the underlying science principles explaining or controlling those applications. This course will use numerous laboratory exercises and experiments as the major tool of instruction. Topics of instruction will include: conservation tillage, spray drift, solar energy, global positioning, chemistry of popcorn, and making of gummy worms. Students can also establish a supervised agricultural experience program and participate in FFA activities. This course should be taken in combination with PSAA I.

AGR 453 ENVIRONMENTAL MANAGEMENT (Yearly 1 Credit) (10, 11, 12)

Prerequisite: *Successful Completion of Biology or BSAA I and II*

The purpose of this course is to give students a solid understanding of the factors that positively and negatively impact the Earth's environments. Topics covered will include renewable and non-renewable natural resources, waste and recycling and wildlife management, to name a few. Students who successfully complete this course may go on to take more advanced environmental science courses at the university or community college levels.

