

# •VOCATIONAL/AGRICULTURE DEPARTMENT•

## **FUNDAMENTALS OF AGRICULTURAL SCIENCE AND BUSINESS AB**

Full Year, 1 Credit/Sem. \*This course may be taken for only one semester of the student's choice.

Course Nos. 1201-1202

Grade Level: 9,10,11,12

Prerequisite: None

Description: Students in this class will develop their own Agriculture Experience Projects. 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, farm agribusiness management, landscape management, natural resources management, and agricultural mechanization. We will study small engines, FFA history, livestock evaluation, soil use and evaluation, and record keeping. Students will have opportunities to participate in parliamentary procedure and FFA judging and leadership contests.

## **MECHANICAL DRAWING AND COMPUTERS IN DESIGN**

One Semester, 1 Credit

Course No. 1203

Grade Level: 9

Prerequisite: None

Description: This course focuses on using mechanical drawing along with computer systems in production drawings. The emphasis is placed on using basic drafting principles along with modern computer applications rather than on developing job skills. Course content will attempt to address major themes such as design, 3-view drawings, isometric drawings, oblique drawings, and documentation using CAD systems.

## **PLANT AND SOIL SCIENCE**

One Semester, 1 Credit

Course No. 1205

Grade Level: 9, 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: Students will participate in a variety of activities including some laboratory work. Topics covered include the taxonomy of plants, the various plant components and their functions, plant growth, plant reproduction and propagation, photosynthesis and respiration, diseases and pests of plants, biotechnology, the basic components and types of soils, calculation of fertilizer application rates and procedures for application, soil tillage and conservation, and irrigation and drainage, land measurement, cropping systems, harvesting and career opportunities in the field of plant and soil science. FFA activities are available to those interested in soil and crops evaluation.

## **ANIMAL SCIENCE/SMALL ANIMAL CARE**

One Semester, 1 Credit

Course No. 1211

Grade Level: 9, 10, 11, 12

Prerequisite: None

Description: This course focuses on the science of hobby animals. Students will study the science involved in small animal production. Topics to be studied are anatomy and physiology, genetics, reproduction, nutrition, aquaculture, careers in small animal science, common diseases and parasites, social and political issues related to the industry, and management practices for the care and maintenance of small animals. Time will be spent on study of breeds, equipment, showing, and training. Major emphasis will be placed on dogs, cats, horses, and rabbits; if time allows other small animals will be included.

## **ANIMAL SCIENCE**

One Semester, 1 Credit

Course No. 1212

Grade Level: 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: The major livestock industries of Indiana will be studied with special emphasis on those livestock operations predominate in this area such as swine, beef, sheep, and dairy. Horse and poultry production may also be studied. Topics will include history, reproduction, genetics, nutrition, physiology, anatomy, diseases and parasite control, management practices for the care and maintenance of animals. Study areas will include history, breed identification, production, and product usage postproduction.

## **ADVANCED LIFE SCIENCE: ANIMALS AB**

Full Year, 1 Credit/Semester

CourseNo.1221-1222

Grade Level: (10)\*\* 11, 12

Prerequisite: Biology I AB

Description: Students will investigate concepts that enable them to understand animal life and animal science as it pertains to agriculture. Through instruction, including laboratory and fieldwork, they recognize concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture. **Students who successfully complete this class may earn 3 credit hours at Purdue; a fee would be required to receive Purdue credit. \*\*Purdue credit is not available if this class is taken in the sophomore year.**

## **AGRICULTURAL MECHANIZATION III/AG WELDING AND METALS**

One Semester, 1 Credit

Course No. 1231

Grade Level: 9, 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: In this course, students will develop an understanding of the basic principles of welding and metal usage. Topics covered include safety, work practices in the use of metals, ARC, GAS, and MIG welding, and metal study. Students will learn various types of welding and develop skills through welding practice. Students are introduced to career opportunities in agricultural mechanization and related areas.

## **AGRICULTURE MECHANIZATION IV/ADVANCED AGRICULTURE WELDING AND METALS**

One Semester, 1 Credit

Course No. 1232

Grade Level: 11, 12

Prerequisite: Agricultural Mechanization III/Ag Welding and Metals, C or better, or teacher recommendation.

Description: Advanced Welding and Metals is a course in which students expand their knowledge of welding and metal usage. Topics covered include safety, advanced practices of ARC, GAS, MIG, and TIG welding, use of the metal lathe, and metal study. Students will design and draw plans for projects. Students will construct various projects based on their drawings. The projects will incorporate all welding practices. **Students who successfully complete this class will receive credit at both EHS and IVY TECH at no cost. \* updated to reflect IVY TECH dual credit Mutual Agreement of Understanding. Minimum C grade required.**

## **AGRICULTURE MECHANIZATION V/STRUCTURES I**

One Semester, 1 Credit

Course No. 1241

Grade Level: 9, 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: This is a basic course designed to acquaint the student with materials, hand tools, and power machines. Reading drawings and related math skills will be stressed. Students will be graded on their projects, attitudes, and their ability to work with other individuals.

## **AGRICULTURE MECHANIZATION VI/STRUCTURES II**

One Semester, 1 Credit

Course No. 1242

Grade Level: 10, 11, 12

Prerequisite: Agriculture Mechanization V/Structures I, C or better grade

Description: This course is designed to build on experiences received in Structures I. In this advanced level of work, students will apply their knowledge and skills in the form of designing, fabricating, and finishing a quality project.

## **AGRICULTURAL MECHANIZATION I/AG SHOP**

One Semester, 1 Credit

Course No. 1255

Grade Level: 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: Students in this class will develop an understanding of basic principles of selections, operation, maintenance, and management of agricultural production equipment. Topics covered include small gas engine repair, plumbing, concrete, and basic electricity work. Students will learn to develop home service center, use a transit, and correctly wire and use electrical current. If time allows, project construction will also be incorporated. Students will be introduced to career opportunities in agricultural mechanization and related industries.

## **AGRICULTURAL MECHANIZATION II/AG MECHANICS**

One Semester, 1 Credit

Course No. 1256

Grade Level: 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: Ag mechanics will deal with the theory and operation of machinery. Preventive maintenance will be discussed as well as adjustment, tune-up, and minor repair. Students learn preventative principles of engine maintenance. Topics include intake exhaust systems, fuel systems, lubrication, cooling, electrical systems, power trains, hydraulics, and tune-up. Emphasis will be placed on safe operation of agricultural equipment.

## **AGRIBUSINESS MANAGEMENT\***

Full Year, 1 Credit/Sem.

Course No. 1257, 1258

Grade Level: 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: Emphasis will be placed on decision-making principles involving land-use, capital, labor, and management. A livestock and cropping system will be planned. Principles of marketing and financing will be studied. Taxes, insurance, law, and use of the computer in agriculture are all units of study. Time will be spent on developing budgets, cash flows, and other management forms. Students learn decision-making skills, methods of organizing and planning, starting in the agriculture business, farm record keeping, and risk management. **Students who successfully complete both semesters of this class may receive credit at both EHS and IVY TECH at no cost. \* updated to reflect IVY TECH dual credit Mutual Agreement of Understanding. Minimum C grade required.**

## **HORTICULTURAL SCIENCE**

One Semester, 1 Credit

Course No. 1261

Grade Level: 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: In this class, time is spent studying landscaping, flower arranging, corsage construction, wreath construction; some time is spent in the school tree farm and greenhouse. This course is designed

to give students a background in the field of horticulture. 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 herbaceous, woody and nursery stock, fruit, nut, and vegetable production, and pest management. The course will be offered in the fall semester only.

## **HORTICULTURAL SCIENCE/GREENHOUSE MANAGEMENT**

One Semester, 1 Credit

Course No. 1262

Grade Level: 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: Students will practice hands-on techniques of plant production in the school's greenhouse. Two to three days a week will be spent in the greenhouse practicing seeding, cuttings, fertilization, and insect and disease control. Topics will include understanding plants and their environments, controlling the environment, equipping the greenhouse, soil mixes, fertilizers, planting, crop schedules, caring for plants, controlling pests, and sources of seeds and supplies. Members in this class operate the greenhouse only spring semester.

## **LANDSCAPE MANAGEMENT**

One Semester, 1 Credit

Course No. 1265

Grade Level: 10, 11, 12

Prerequisite: Passing grade in last agriculture class if one was taken or teacher recommendation.

Description: This course provides the student with an overview of the field of landscape management. Students are introduced to the procedures used in the planning and design of a landscape, the principles and procedures involved with 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.

## **SUPERVISED AGRICULTURAL EXPERIENCE LEADERSHIP DEVELOPMENT CLASS AB**

Full Year, 1 Credit/Sem.

Course Nos. 1271-1272

Grade Level: 10, 11, 12

Prerequisite: Members in this class must have been elected during the FFA elections or be invited into the class by the instructor.

Description: Supervised Agricultural Experience (S.A.E.) is designed to provide students the opportunity to gain experience in agricultural leadership. Students experience and apply what is learned in the classroom to real life situations. Students enrolled in this class will run the daily operations of the F.F.A organization. They are expected to plan, set-up, and carry out all the activities to provide for a successful FFA organization. Students work closely with the agricultural science and business teacher. This course is offered during summer by arrangement with the teacher.

## **SCHOOL-TO-WORK PROGRAM AB**

Full Year, 1 Credit/Sem.

Course Nos. 1291-92

Grade Level: 12

Prerequisite: Students in this experience must be at least 16 years or age, seniors scheduled to graduate in the current year, and must meet proficiencies based on their career objective. Students will be responsible for transportation, work uniforms if required. Students and parents must sign a contract before enrollment.

Description: This program will consist of a minimum of fifteen (15) hours on the job training per week and related classroom instruction. The student will receive two graded credits from the Eastbrook agriculture instructor each semester. The student will be paid at least a minimum wage for the learning experience

which will vary within the businesses. The student will compile a listing of proficiencies which will become a part of the required portfolio. Site selection will be determined by a job interview with potential employers and will occur through a process that may include presentation of resume, job application, student career objectives, and attendance and scholastic records. Students currently working at a job may contact the instructor to see if that position might qualify for this program.

## **CADET TEACHING AB**

Full Year, 2 Credits/Sem.

Course Nos. 1411-1412

Grade: 12 only

Prerequisite: Application process, Core 40 curriculum, 2.75 or better GPA, recommendation of teacher, desire to enter teaching field.

Description: This course is designed for the student who plans a career in the field of education. Cadet teachers will work closely with elementary teachers learning about the profession. Activities will include, but are not limited to, bulletin board construction, individual student instruction in various subjects, grading papers, presenting short lessons, working with small groups, supervision, and much more. Each cadet teacher will keep a journal of activities and will be evaluated by the supervising elementary teacher. Seniors may take this course for one semester or for all year. The cadet teacher will be assigned to an elementary teacher for a nine-week period. This program encourages experience with a variety of grade levels; therefore, the cadets will be moved to different grade levels and/or teachers at the end of each nine weeks and at the end of the semester.