

Sealy Agricultural Sciences

SEALY Agricultural Sciences – All success and student achievement in FFA activities is built on Classroom instruction. The following is a list of courses offered at SHS. Some courses are offered yearly, while others less often. With the assistance of an FFA Advisor and Counselors, FFA members should determine the best sequence of courses for them.

PRINCIPLES OF AGRICULTURE, FOOD, AND NATURAL RESOURCES

CREDIT: 1 / GRADE : 9-12 / PREREQ: NONE - Students will attain academic skills and knowledge in agriculture, food, and natural resources. This course allows students to develop knowledge and skills regarding career opportunities, personal development, globalization, industry standards, details, practices, and expectations in agriculture, food, and natural resources.

SUBJECT: LIVESTOCK PRODUCTION

Credit ½ / Grade 10-12 / PREREQ:/ None- To be prepared for careers in the field of animal science, students need to attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings. Animal species to be addressed in this course may include, but are not limited to, beef cattle, dairy cattle, swine, sheep, goats, and poultry.

SUBJECT: EQUINE SCIENCE

CREDIT: ½ / GRADE : 10-12 / PREREQ: NONE- To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. Suggested animals which may be included in the course of study include, but are not limited to, horses, donkeys, and mules.

SUBJECT: WILDLIFE, FISHERIES, AND ECOLOGY MANAGEMENT

CREDIT: ½ / GRADE : 10-12 / PREREQ: NONE- This course examines the management of game and non-game wildlife species, fish, and aquacrops and their ecological needs as related to current agricultural practices.

SUBJECT: VETERINARY MEDICAL APPLICATIONS

CREDIT: 1 / GRADE : 11-12 / PREREQ: PRINCIPLES OF AGRICULTURE, FOOD, AND NATURAL RESOURCES, SMALL ANIMAL PRODUCTION, WILDLIFE FISHERIES AND ECOLOGY MANAGEMENT, EQUINE SCIENCE OR TEACHER APPROVAL -
To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. Topics covered in this course include, but are not limited to, veterinary practices as they relate to both large and small animal species.

Agricultural Science Courses Continued

SUBJECT: ADVANCED ANIMAL SCIENCE

CREDIT: 1 SCIENCE CREDIT /GRADE 12 /PREREQ: RECOMMENDED MINIMUM OF ONE CREDIT FROM THE COURSES IN THE AGRICULTURE, FOOD AND NATURAL RESOURCES CAREER CLUSTER -This course examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences.

SUBJECT: PROFESSIONAL STANDARDS IN AGRIBUSINESS

CREDIT: 1 /GRADE : 9 – 12 /PREREQUISITE: NONE -Acquire technical knowledge and skills related to leadership development and the workplace and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

SUBJECT: PROFESSIONAL COMMUNICATIONS (FFA)

Credit ½ Speech / Grade 1-12 / PREREQ : None - Course blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.

SUBJECT: PRINCIPLES AND ELEMENTS OF FLORAL DESIGN

CREDIT: 1 FINE ARTS CREDIT /GRADE: 10-12 /PREREQ: NONE -Students need to attain academic skills and knowledge as well as technical knowledge and skills related to horticultural systems and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. This course is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop and understanding of the management of floral enterprises.

SUBJECT: LANDSCAPE DESIGN AND TURF GRASS MANAGEMENT

CREDIT: ½ /GRADE : 10-12 /PREREQ: NONE -Students need to attain academic skills and knowledge as well as technical knowledge and skills related to horticultural systems and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. This course is designed to develop an understanding of landscape and turf grass management techniques and practices.

SUBJECT: HORTICULTURE SCIENCE

CREDIT: 1 /GRADE: 10-12 /PREREQ: NONE -Students need to attain academic skills and knowledge as well as technical knowledge and skills related to horticultural systems and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. This course is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production.

Agricultural Science Courses Continued

SUBJECT: AGRICULTURAL MECHANICS AND METAL TECHNOLOGY

CREDIT: 1 /GRADE : 10-12 /PREREQ: NONE -To be prepared for careers in agricultural power, structural, and technical systems, students need to attain skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. This course is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques.

SUBJECT: AGRICULTURAL POWER SYSTEMS

CREDIT: 1-2 /GRADE: 10-12 /PREREQUISITE: NONE -To be prepared for careers in agricultural power, structural, and technical systems, students need to attain skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. This course is designed to develop an understanding of power and control systems as related to energy sources, small and large power systems, and agricultural machinery.

SUBJECT : WELDING

CREDIT: 1-2 /GRADE 10-12 / PREREQ: RECOMMENDED THAT STUDENTS COMPLETE ALGEBRA 1 -Rapid advances in technology have created new career opportunities and demands in many industries. Welding provides the knowledge, skills, and technologies required for employment in metal technology systems. Students develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for future success.

SUBJECT: ADVANCED WELDING

CREDIT: 2 CREDITS /GRADE : 11-12 /PREREQ: RECOMMENDED THAT STUDENTS COMPLETE ALGEBRA 1 OR GEOMETRY AND WELDING -Advanced Welding builds on knowledge and skills developed in Welding. Students will develop advanced welding concepts and skills as they relate to personal and career development. This course integrates academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

SUBJECT: PRACTICUM IN AGRICULTURE MECHANICS

CREDIT: 2-3 /GRADE : 11-12 /PREREQ: RECOMMENDED THAT STUDENTS COMPLETE AGRICULTURAL MECHANICS AND METAL TECHNOLOGY AND ADVANCED WELDING -To be prepared for careers in agricultural power, structural, and technical systems, students need to attain skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. The Practicum is designed to give students supervised practical application of knowledge and skills in the field of agricultural mechanics.

Agricultural Science Courses Continued

SUBJECT: MATHEMATICAL APPLICATIONS IN AGRICULTURE, FOOD, AND NATURAL RESOURCES

CREDIT: 1/GRADE 11 PREREQ: RECOMMENDED PREREQUISITE A MINIMUM OF ONE CREDIT FROM THE COURSES IN THE AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER -To be prepared for careers in agriculture, food, and natural resources, students must acquire technical knowledge in the discipline as well as apply academic skills in mathematics. Students should apply knowledge and skills related to mathematics, including algebra, geometry, and data analysis in the context of agriculture, food and natural resources. To prepare for success, students are afforded opportunities to reinforce, apply, and transfer their knowledge and skills related to mathematics in a variety of contexts.

SUBJECT: PRINCIPLES OF ARCHITECTURE AND CONSTRUCTION

CREDIT: 1/2-1/ GRADE: 9-12 - Principles of Architecture and Construction provides an overview to the various fields of architecture, interior design, construction science, and construction technology. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, educational, and career information to set and achieve realistic career and educational goals. Job-specific, skilled training can be provided through the use of training modules to identify career goals in trade and industry areas. Safety and career opportunities are included, in addition to work ethics and job-related study in the classroom such as communications; problem solving and critical thinking; Information Technology Applications; systems; safety, health, and environmental; leadership and teamwork; ethics and legal responsibilities; employability and career development; technical skills; introduction to hand tools; introduction to power tools; basic rigging; and reading technical drawings.

SUBJECT: CONSTRUCTION TECHNOLOGY

CREDIT: 1-2 GRADE: 10-12 PREREQ: RECOMMENDED PREREQUISITE: PRINCIPLES OF ARCHITECTURE AND CONSTRUCTION - In Construction Technology, students gain knowledge and skills specific to those needed to enter the work force as carpenters or building maintenance supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes, and framing.