Agricultural Sciences Concepts

- Agriculture is a science that contributes to the development, improvement, and sustainability of living things.
- Agriculture, food, and natural resources systems produce the food, fiber, and fuel that are essential to daily life as well as contribute to the nation's economic wealth.
- The use of technology and computer applications is critical to modern agricultural practices.
- Critical thinking involves using a variety of problem-solving techniques in real-life contexts.
- Individuals who pursue a program of study in agricultural education will benefit from leadership development, personal growth, and career exploration.
- Inquiry activities are important in the practice of scientific processes and in the world of research.





grassland animals genetics
AGRICULTURAL SCIENCE
microbiology plants soil

Program Course Sequence

Junior Year, First Semester
Agriculture, Food, & Natural Resources

Junior Year, Second Semester
Principles of Agricultural Science-Animal

Senior Year, All Year
Animal & Plant Biotechnology

Senior Year, All Year
Honors Agriculture, Research & Development Capstone

If all of the above courses are passed, the student will also earn 1 science credit.

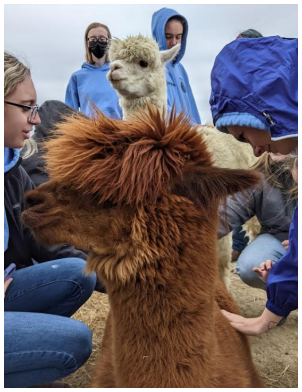
Cecil County Public Schools

Cecil County Public Schools does not discriminate in admissions, access, treatment or employment in its programs and activities on the basis of race, color, gender, age, national origin, religion, sexual orientation, or disabling condition.

Students from the five county high schools have the opportunity to begin programs during their junior year by a designated application process. Students will complete their programs during their senior year.

Revised 10/2025

Agricultural Sciences





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Agricultural Sciences

The Agricultural Sciences program is a great way to explore and learn more about animals, plants, and biotechnology and how they influence the world around us. Many different sciences are applied to this program—biology, animal husbandry, ecology, biotechnology, soil and environmental sciences. Laboratory experiments and long-term scientific projects are the core of this program, with the senior year having a capstone project that is great preparation for continuing education or introduction for a laboratory technician job. This program provides students with the opportunity to learn about the most important science—Agricultural Science. Without it, there is no food or fiber to make the world's products. Agricultural Sciences is NOT just about farming—it is about sustaining the future for a growing population on a planet with finite resources. Do you like getting outside? Do you like working with animals or plants? Do you like hands-on work? Do you like to learn about new and exciting technologies? Then Ag Science is for you!

Pre: Algebra I (or equivalent)
Recommended: Biology
Fees: $145 for uniforms, $210 for materials, FFA membership dues, and other miscellaneous items.
NRCS Fundamentals of Conservation & Sustainability in Agriculture $50

For more specific information please go to www.case4learning.org





AGRICULTURE Science Sustainability CAREERS

Topics in the Agricultural Sciences Program

- Students will be introduced to a variety of sciences, plants, animals, natural resources, agricultural mechanics, ecology, environments sciences, research methods, and leadership skills.
- Students will learn through hands-on instruction via activities, projects, problems, and real world application of concepts.
- Students will explore the world of animal agriculture. Areas of study include history and domestication, handling and behavior, anatomy and physiology, nutrition, reproduction, genetics, health, selection, and marketing.
- Students will be introduced to biotechnology related to plant and animal agriculture.
- Students will learn about agricultural biotechnology and the role it plays in agriculture today.
- Students will be introduced to DNA technologies.
- Students will learn about the role of proteins and the importance throughout the field.

Senior Research Project-students will choose a topic based on their interest and identify a problem to research. Students will develop and implement research procedures, document the research, analyze the data collected, and present their findings and recommendations through a written report, a visual display, and an oral presentation.





Transcripted Credit:

Students that complete, present, and pass the student-directed research project will be eligible to apply for and earn three transcripted credits from the Institute of Applied Agriculture at the University of Maryland.

Students earning a final grade of B or higher in all courses in the program sequence may receive articulated college credit.

Please refer to the Articulation Agreement Chart for a list of program specific institutions.

Postsecondary Options:

Agricultural Sciences provides the foundation for postsecondary education in any agricultural field including Animal Science, Plant Science, Natural Resource Management, Environmental Science, Food Science, Veterinarian, Veterinary Technician, and Laboratory Technician.



Career Examples:

Examples include, but are not limited to, the following: soil scientist, lab-animal technician, food safety inspector, veterinarian, food product developer, agricultural marketing representative, entrepreneur, and Agriculture tourism.



