

CURRICULUM DEVELOPMENT

Each state education department typically has set course descriptions used by agricultural education instructors. In addition, each school will have specific policies and procedures for curriculum development, be sure to check with your school administration.

STEPS TO SUCCESS

1. Obtain a copy of your state's course descriptions from the previous instructor in your position or find the link the state education department's website.
2. If the state in which you are teaching does not have curriculum guides, explore what has been done previously at this school. Obtain a class listing with course descriptions. Look through the previous instructor's materials and textbooks. Meet with your local CTE director to discuss the agricultural education curriculum.
3. Look for professional development and technology training at state-level conferences. Contact teacher educators at the nearest university.

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CURRICULUM BUILDING BLOCKS

BACKWARD DESIGN

Backward design is a method to develop an educational curriculum by starting with the student outcomes/objectives in mind then work backward to create lesson plans that meet what the student is expected to learn or achieve by the end of the unit or course.

Step 1: Identify what are the learning outcomes, knowledge and skills a student should acquire?

Step 2: What performance indicators will be used and how will student learning be assessed?

Step 3: What activities, projects or lessons will lead to the attainment of knowledge and success on the assessment?

Source: McTighe, J., & Wiggins, G. (1998) Understanding by Design. Alexandria, VA: Association for Supervision & Curriculum Development

STANDARDS

Standards set benchmarks that measure the knowledge and skills a student should be able to accomplish at the completion of that stage of their education. The curriculum should be aligned with the National Ag, Food & Natural Resources Career Cluster Content Standards and State level standards to ensure students are meeting the learning goal appropriate for their grade level.

AFNR STANDARDS

The [AFNR Career Cluster Content Standards \(https://thecouncil.ffa.org/afnr\)](https://thecouncil.ffa.org/afnr) provide state agricultural education leaders and educators with a high-quality, rigorous set of standards to guide what students should know and be able to do after completing a program of study in each of the AFNR career pathways.

CAREER PATHWAYS/PROGRAMS OF STUDY

There are eight career pathways in the AFNR framework :

- Agribusiness Systems
- Animal Systems
- Biotechnology Systems
- Environmental Service Systems
- Food Products and Processing Systems
- Natural Resources Systems
- Plant Systems
- Power, Structural, and Technical Systems

COURSE DESCRIPTIONS

A course description is a brief statement that informs students about the subject matter, approach, and applicability of the course. Texas CTE provides a variety of [AFNR course description examples](#) that might help you get started.

SAMPLE AVAILABLE CURRICULUM AND INSTRUCTIONAL MATERIALS RESOURCES

- AgEdNet.com
- [Curriculum for Agricultural Science Education](#)
- [Cornell University Veterinary Science Curriculum](#)
- [iCEV](#)
- [MyCAERT](#)
- Various agriculture commodity organizations' curriculum resources.

CURRICULUM BUILDING BLOCKS

CORE CONTENT INTEGRATION

Agricultural education serves as the practical/real-world application of the core content areas of education. It is important to understand how to develop a curriculum and lessons that integrate these areas. Working with your core teacher allows your students and core content teachers to understand the transfer of skill between and the core content area.

- Math
- Science
- ELA
- Social Studies
- STEM or STEAM

PACING GUIDES/TEACHING CALENDAR

Pacing guides help teachers plan what content will be taught at what point during the year. They can be useful to help develop cross-curricular connections with the core content teaching areas.

BASIC LESSON PLANNING AND FORMAT

Lesson plans are step-by-step plans on what the teacher will do on a daily basis. They may include objectives/student outcomes, essential questions, teaching methods, material and procedures, assessments and reflection/extension activities. Here are a variety of [basic lesson plan templates](https://www.teacherplanet.com/lesson-plan-templates/). (<https://www.teacherplanet.com/lesson-plan-templates/>)

CURRICULUM FOR AGRICULTURAL SCIENCE EDUCATION (CASE)

CASE OVERVIEW

Curriculum for Agricultural Science Education (CASE) empowers teachers to utilize powerful instructional strategies in inquiry-based, STEM-enriched teaching practices. To foster this environment, CASE develops comprehensive curriculum materials with purposeful design elements to promote rigor and relevance. However, the most powerful aspect of CASE is the professional development designed to reinforce and assist the implementation of CASE curriculum.

In order to use CASE curriculum, a teacher must successfully complete 50- to 100-hours of intense professional development per course they wish to implement. The professional development experiences are rigorous, and the outcome is to provide the teacher an adequate overview of the content, pedagogy, and course design. In addition to the tangible aspects of the professional development, CASE professional development sessions provide a teacher confidence in teaching STEM-related concepts and encourage participation in a professional learning community to provide the teacher with support after the professional development session.

Once teachers are certified in a CASE course through professional development, they may offer the course to their students. CASE courses include lessons that build on previous lessons leading students to a higher understanding of big-picture STEM concepts. Rigorous lessons are delivered using inquiry-based instruction, student-directed learning, and activities, projects and problems (APP).

CASE PROGRAM OF STUDY PATHWAYS

CASE offers four Program of Study pathways comprised of ten courses forming pathways in Animal Science, Plant Science, Agricultural Engineering, and Natural Resources. A Program of Study pathway consists of four courses for students to develop knowledge and skills related to the pathway content area. Each pathway is designed to facilitate purposeful agricultural instruction integrated with science and mathematics while increasing rigor and independent learning strategies throughout the sequence of courses.

The recommended implementation of a pathway is to start with the introductory course and add courses within the pathway. Additional pathways may be added based on program needs and staffing. CASE does not require pathway implementation, and individual programs may utilize the curriculum to fit their needs. The following is an illustration of the CASE Program of Study pathway model. Visit www.case4learning.org for more details.

TECHNOLOGY INTEGRATION

Technology in the classroom has never been more prevalent. While each district will have their own policies related to technology that you need to follow, keep the following things in mind when integrating technology into your classroom.

- **Obtain a copy of your school district's technology policy and have a thorough understanding of it.**
By reading through the policy, you will have a better understanding of how to handle situations that may come up.
- **Set clear technology expectations for your students, and stick to them.**
Will cell phones be allowed in your classroom? If so, when? Will students be allowed on the computer when they are done with an assignment? Set clear technology expectations, and stick to them. If you do not set clear ground rules and enforce them, students may take advantage of using technology in your classroom.
- **Understand that technology issues do arise.**
Technology is not always perfect. There may be times when you will need to shift or change an activity because of issues related to technology. Try your best, and if the technology is not working, you may need to find a different way to deliver the activity and/or lesson.
- **Develop a process for storing/caring for /using technology.**
How will students store, care for, and use technology in your classroom? Find a system that works for you, and implement it on day one. If you have laptops that are stored in your classroom, make sure to develop a system for students to put them away at the end of the class period. Set expectations related to charging personal devices and one-to-one devices as well for students.
- **Implement technology purposefully.**
Sometimes it can be easy to get carried away with implementing technology. However, is it always the best fit for every activity or lesson? No. Use technology in a way that enhances student learning that may not be as successful or engaging if delivered in a traditional way.