



## Advanced Ag Structures

Career Cluster	Agriculture, Food and Natural Resources
Course Code	18407
Prerequisite(s)	Fundamental Ag Structures Technology, Recommended: Introduction to AFNR
Credit	0.5 credit
Program of Study and Sequence	Fundamental Ag Structures Technology – Advanced Ag Structures Technology – Capstone Experience
Student Organization	National FFA Organization
Coordinating Work-Based Learning	Job shadowing, mentoring, internships, entrepreneurships, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)
Industry Certifications	OSHA 10 Hour Safety Certification (Agricultural, Construction Industry, or General Industry), National Career Readiness Certificate (NCRC)
Dual Credit or Dual Enrollment	<a href="https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf">https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf</a>
Teacher Certification	Agriculture, Food, and Natural Resources Cluster Endorsement; Power Structural & Technical Systems Pathway Endorsement; *Agriculture Education
Resources	

### Course Description

Advanced Ag Structures Technology is offered to meet more advanced needs in the agricultural structures industry, along with soft skills necessary for careers in the Agriculture, Food and Natural Resources sector. South Dakota continues to face a shortage of certified electricians, plumbers, contractors, and mechanics, leaving these careers in high demand. Classroom and laboratory content may be enhanced by utilizing appropriate equipment and technology. Algebra, geometry, trigonometry, English, and human relations skills will be reinforced in the course. Work-based learning strategies appropriate for this course are school-based enterprises, industry speakers, job shadowing and field trips. This class is reinforced through the FFA and Supervised Agricultural Experience (SAE) programs, the Ag Mechanics Career Development Event, and related Proficiency Experience or Internship Project. Each student will be expected to maintain an SAE.

### Program of Study Application

Advanced Ag Structures Technology is the second pathway course in the Agriculture, Food and Natural Resources Program of Study, Power Systems pathway. Fundamental Ag Structures Technology is a prerequisite for Advanced Ag Structures Technology. Advanced Ag Structures Technology would be followed by a capstone experience.

## Course Standards

### AdS 1: Use safe practices when planning, maintaining, and constructing agricultural structures.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	AdS 1.1 Demonstrate safe use and knowledge of tools and equipment while constructing agricultural structures.
Three Strategic Thinking	AdS 1.2 Demonstrate understanding of tool repair and maintenance.
Three Strategic Thinking	AdS 1.3 Demonstrate workplace/worksite safety procedures and protocols.

### AdS 2: Service and repair mechanical equipment and structures.

<i>Webb Level</i>	<i>Sub-indicator</i>
Three Strategic Thinking	AdS 2. 1 Analyze schematics to service various systems in an ag structure.

### AdS 3: Utilize a structural plan that meets specifications and building codes.

<i>Webb Level</i>	<i>Sub-indicator</i>
Three Strategic Thinking	AdS 3.1 Examine blueprints and local codes that identify required components of an ag structure.
Three Strategic Thinking	AdS 3.2 Design a construction plan for an agricultural structure.

### AdS 4: Use plans to guide construction of agricultural structures.

<i>Webb Level</i>	<i>Sub-indicator</i>
Four Extended Thinking	AdS 4.1 Use architectural and mechanical plans to construct agricultural buildings or facilities.

### AdS 5: Apply a variety of concrete and masonry concepts to various projects.

<i>Webb Level</i>	<i>Sub-indicator</i>
Three Strategic Thinking	AdS 5.1 Demonstrate concrete and masonry procedures.

### AdS 6: Investigate a variety of plumbing tools and products.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	AdS 6.1 Identify tools and materials used for plumbing.
Three Strategic Thinking	AdS 6.2 Demonstrate various plumbing techniques.

### AdS 7: Develop employability skills related to the Power, Structural, and Technical Systems Pathway.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	AdS 7.1 Develop soft skills to enhance employability.

**AdS 8: Implement an individual project for career development through a Supervised Agriculture Experience/Work based Experience.**

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	AdS 8.1 Develop an individual project plan with goals and timeline.
Two Skill/Concept	AdS 8.2 Explore opportunities within AFNR industries.
Three Strategic Thinking	AdS 8.3 Apply concepts of financial management appropriate to agricultural projects and personal finances.
Three Strategic Thinking	AdS 8.4 Develop and document knowledge and skills to ensure workplace safety regarding personal health and environmental management.
Four Extended Thinking	AdS 8.5 Research and analyze how public policy, laws, and advocacy impact agricultural systems and agricultural literacy.