



Advanced Ag Structures Technology

Career Cluster	AFNR
Course Code	18407
Prerequisite(s)	Fundamental Ag Structures Technology, Recommended: Introduction to AFNR
Credit	.5
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, entrepreneurship, 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	None
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. 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>	<i>Integrated Content</i>
Two Skill/Concept	AdS 1.1 Demonstrate safe use of tools and equipment while constructing agriculture structures.	
Three Strategic Thinking	AdS 1.2 Demonstrate understanding of tool repair and maintenance.	

Notes

AdS 2 Service and repair mechanical equipment and structures.

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

Notes

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

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</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.	Blueprints, list of materials, codes, etc.

Notes

AdS 4 Use plans to guide construction of agricultural structures.

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

Notes

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

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Three Strategic Thinking	AdS 5.2 Demonstrate concrete and masonry procedures.	

Notes

AdS 6 – Investigate a variety of plumbing tools and products.

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

Notes

Career Cluster: Agriculture, Food & Natural Resources

Course: Advanced Ag Structures Technology

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

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

Notes