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| **COURSE INTRODUCTION:**This course includes electrical wiring, electrical motors, concrete masonry, plumbing and sewage disposal, farm fences, product handling and processing equipment, and farm buildings. (CD 016720, CIP 01.0201) Course Rationale – Agriculture encompasses the food, fiber, conservation and natural resource systems, employing over 20% of the nation’s workforce. Basic construction skills and knowledge in electricity, plumbing, concrete, and masonry are necessary for the building of agricultural structures. |
| **UNIT DESCRIPTION:** Students will learn about agricultural building construction and understand correct, safe, building construction procedures and materials. | **SUGGESTED UNIT TIMELINE: 12 WEEKS** **CLASS PERIOD (min.): 50 MINUTES** |
| **ESSENTIAL QUESTIONS:****1. What are the essential and proper building methods used in agriculture building construction?** |
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| **ESSENTIAL MEASURABLE LEARNING OBJECTIVES**  | **CCSS LEARNING GOALS (Anchor Standards/Clusters)** | **CROSSWALK TO STANDARDS** |
| **GLEs/CLEs** | **PS** | **CCSS** | **AFNR Standards** | **DOK** |
| 1. Describe safety practices associated with building construction.
 |  |  |  | RST11-12.9L11-12.6SL11-12.4 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Identify types and designs of buildings and their methods of construction.
 |  |  |  | N-Q.1G-CO.1G-GPE.5SL11-12.1.aRST11-12.4RST11-12.9L11-12.6 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Identify and select building materials.
 |  |  |  | SL11-12.1.aRST11-12.9L11-12.6 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Identify the uses of different fasteners and fastening systems.
 |  |  |  | N-Q.1G-CO.1G-GPE.5SL11-12.1.aRST11-12.9L11-12.6 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Describe how to construct a floor and subfloor.
 |  |  |  | N-Q.1G-CO.1G-GPE.5RST11-12.9L11-12.6SL11-12.4 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Describe the purpose of walls, types of walls, supports, and siding used in agricultural buildings.
 |  |  |  | N-Q.1G-CO.1G-GPE.5RST11-12.9L11-12.6SL11-12.4 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Select a roof support system.
 |  |  |  | N-Q.1G-CO.1G-GPE.5RST11-12.9 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Select roofing materials.
 |  |  |  | RST11-12.9 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Identify factors affecting the heating, cooling, and ventilation of agricultural structures.
 |  |  |  | N-Q.1G-CO.1G-GPE.5RST11-12.9 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **2** |
| 1. Demonstrate an understanding of correct building construction procedures by laying out joists and rafters, applying roofing skills, and answering questions about roofing materials.
 |  |  |  | N-Q.1G-CO.1G-GPE.5RST11-12.9L11-12.6WHST11-12.2 | PST.01.01PST.01.03PST.02.01PST.03.04PST.04.01PST.04.02PST.04.03PST.05.01PST.05.03 | **3** |
| **ASSESSMENT DESCRIPTIONS\*: (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc. )** Students will lay out joists and rafters, use roofing skills to apply model shingles, and answer key questions about applying roofing materials. Assessment will be based on the ability to safely and correctly perform the assigned procedures and to answer questions about applying roofing materials.**\*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above ( i.e., Grade Level/Course Title/Course Code, Unit #.)** |
| **Obj. #** | **INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods)**  |
| 1-10 | 1. Lecture, Discussion, Study Questions, and Group and Individual Project Work
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| 1-10 | 1. Group and Individual Project Work, Presentations, and Evaluation of Projects by Peers and Teacher
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| 1-10 | 1. Optional – Field Trip to Farm Sites
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| **Obj. #** | **INSTRUCTIONAL ACTIVITIES: (What Students Do)** |
| 1-10 | 1. Students will engage in study questions in lessons 1 through 9.
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| 1-10 | 1. Students will complete “AS 1.1, Safety on the Construction Site”; “AS 2.1, Identifying Building Designs”; “AS 3.1, Construction Materials”; “AS 4.1, Identifying Fasteners”; “AS 5.1, Diagramming Flooring”; “JS 5.1, Joist Layout”; “AS 6.1, Wall Construction”; “JS 7.1, Rafter Layout”; “AS 8.1, Applying Roofing Materials”; and “AS 10.1, Heating, Cooling, and Ventilation Needs.”
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|  | 1. Additional activities that relate to the unit objective can be found under the heading “Other Activities” in the following locations: p. III-4, p. III-15, p. III-25 (1), p. III-37, p. III-71, p. III-88, and p. III-113 (1, 2).
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| **UNIT RESOURCES: (include internet addresses for linking)*** *Agricultural Structures*. University of Missouri-Columbia, Instructional Materials Laboratory, 1999.
* Agriculture Publications. MU Extension. University of Missouri-Columbia. Accessed January 17, 2012, from <http://muextension.missouri.edu/explore/agguides/>.
* CEV Multimedia. Accessed December 4, 2003, from <http://www.cevmultimedia.com>
* Cook, J. B., & Nickolaus, G. F. *Basic Procedures in Administration of Zoning Regulations: Appeals*. MU Extension. University of Missouri-Columbia. Accessed January 17, 2012, from <http://muextension.missouri.edu/explore/commdm/dm7613.htm>.
* Cook, J. B., & Nickolaus, G. F. *Basic Procedures in Administration of Zoning Regulations: Making Applications*. MU Extension. University of Missouri-Columbia. Accessed January 17, 2012, from <http://muextension.missouri.edu/explore/commdm/dm7612.htm>.
* Local regulatory agencies, such as the planning and development department, public works department, and county board of commissioners
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