

Standards and Competencies for Agricultural Mechanics & Maint (Course # 5151)

| | Begin-End Yr |
|---|--------------|
| Standard 1 - Examine the basic shop procedures for a safe agricultural mechanics and maintenance laboratory or shop. | 2009 - |
| 1.1 - Assess the value of teamwork in a laboratory environment. | 2009 - |
| 1.2 - Evaluate the need for a code of ethics for working in the laboratory. | 2009 - |
| 1.3 - Specify and explain safety procedures to use when working on farm machinery or power equipment. | 2009 - |
| 1.4 - Examine proper sharpening techniques for tools. | 2009 - |
| 1.5 - Complete safety test with 100 percent accuracy. | 2009 - |
| Standard 2 - Design a layout and provide measurements for an agricultural project. | 2009 - |
| 2.1 - Illustrate the principles of design layout. | 2009 - |
| 2.2 - Manipulate construction measurements used in agriculture. | 2009 - |
| 2.3 - Demonstrate the correct and safe use of precision instruments in constructing agricultural projects. | 2009 - |
| Standard 3 - Construct or repair a metal agricultural project or agricultural machinery. | 2009 - |
| 3.1 - Evaluate the proper use of cold metal working tools. | 2009 - |
| 3.2 - Operate arc-welding equipment. | 2009 - |
| 3.3 - Operate shielded gas-welding equipment. | 2009 - |
| 3.4 - Operate oxyacetylene equipment. | 2009 - |
| Standard 4 - Construct and repair agricultural structures. | 2009 - |
| 4.1 - Recommend building materials for a specific project with a written report. | 2009 - |
| 4.2 - Calculate basic conversion units. | 2009 - |
| 4.3 - Estimate a bill of materials and calculate its cost in a written report. | 2009 - |
| 4.4 - Design building walls using framing materials. | 2009 - |
| 4.5 - Assess the equipment to install an electrical circuit. | 2009 - |
| 4.6 - Assess appropriate materials to mix concrete and mortar. | 2009 - |
| 4.7 - Calculate the number of concrete blocks required for an agricultural structure. | 2009 - |
| 4.8 - Measure, cut, and join plumbing material. | 2009 - |
| 4.9 - Assess materials to construct rafters and trusses. | 2009 - |
| 4.10 - Operate surveying equipment to profile and differential leveling of building sites and structures. | 2009 - |
| 4.11 - Compose a written evaluation report using profile and differential leveling forms. | 2009 - |
| Standard 5 - Examine the operation of a small engine and its application. | 2009 - |
| 5.1 - Diagram and explain the function of each parts of a small engine. | 2009 - |
| 5.2 - Assess the procedures to clean and service small engines. | 2009 - |
| 5.3 - Compare the basic operations of a two- cycle and a four-cycle engine. | 2009 - |
| 5.4 - Differentiate the parts and functions between the varieties of fuels used to operate small engines. | 2009 - |
| Standard 6 - Apply the integration of academic competencies in Agricultural Mechanics and Maintenance. | 2009 - |
| 6.1 - Language Arts: Complete appropriate shop and technical forms and written reports. | 2009 - |
| 6.2 - Mathematics: Convert English/metric ratios. | 2009 - |
| 6.3 - Read instruments in metric or English. | 2009 - |
| 6.4 - Calculate ratios and percentages in basic shop skills. | 2009 - |
| 6.5 - Science: Explain the physical properties involved in combustion. | 2009 - |
| 6.6 - Explain basic hydraulic principles using Pascals laws. | 2009 - |
| 6.7 - Explain basic laws of electricity. | 2009 - |
| Standard 7 - Demonstrate premier leadership and personal growth needed for success and advancement in the career area of agricultural | 2009 - |
| 7.1 - Research and prepare a written report on careers in agricultural mechanics. | 2009 - |
| 7.2 - Examine the FFA program of activities to develop leadership skills. | 2009 - |
| 7.3 - Develop a supervised agricultural experience program based on agricultural mechanics career area. | 2009 - |
| 7.4 - Demonstrate mechanical proficiency through FFA career development events. | 2009 - |
| 7.5 - Prepare exhibits for display. | 2009 - |
| 7.6 - Demonstrate abilities in parliamentary procedure. | 2009 - |
| 7.7 - Develop a group presentation on agricultural mechanics. | 2009 - |