

Agricultural Mechanics I (2004): Grades 9, 10, 11, 12

Adopted 2004

Leadership Development

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- 00. Investigate organizations related to the agricultural mechanics industry.** AE01.00
 - 01. Describe opportunities for leadership development in agricultural mechanics industry organizations. AE01.01
 - 02. Examine youth activities provided by agricultural mechanics industry organizations. AE01.02
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- 00. Demonstrate the process used to conduct business meetings in agricultural mechanics organizations.** AE02.00
 - 01. Explain the role of parliamentary procedure in conducting business meetings. AE02.01
 - 02. Demonstrate key parliamentary procedure abilities that would be used in a business meeting. AE02.02
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- 00. Research aspects of public speaking and their importance to agricultural mechanics businesses.** AE03.00
 - 01. Compare techniques of public speaking. AE03.01
 - 02. Demonstrate a conversational knowledge of agricultural mechanics and the agricultural mechanics industry. AE03.02
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Employability Skills

- 00. Describe skills needed for employment and careers in the agricultural mechanics industry.** AE04.00
 - 01. Identify agricultural mechanics industry careers and their required skills. AE04.01
 - 02. Describe various skills that are necessary for employment in an agricultural mechanics career. AE04.02
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- 00. Describe agricultural mechanics as a profession and its importance in relation to the National, State, and local economy.** AE05.00
 - 01. Describe the broad field of agricultural mechanics and the different categories. AE05.01
 - 02. Specify how agricultural mechanics is important to our economy. AE05.02

00. Explore occupations in the field of agricultural mechanics and its common career paths. AE06.00

- 01. Analyze agricultural mechanics industry careers and related employment opportunities. AE06.01
- 02. Compare characteristics, preparation and credentials needed in agricultural mechanics industry careers. AE06.02

00. Examine opportunities for work-based learning experiences related to the agricultural mechanics industry. AE07.00

- 01. Revise career development plans to reflect agricultural mechanics career opportunities. AE07.01
- 02. Research opportunities for career development in agricultural mechanics. AE07.02

00. Examine the Supervised Agricultural Experience component of the agricultural mechanics course. AE08.00

- 01. Identify the component parts of the Supervised Agricultural Experience Record used in the agricultural mechanics course. AE08.01
- 02. Correctly record entries in the SAE Record. AE08.02

00. Explore methods of financial record keeping in an agricultural mechanics business. AE09.00

- 01. Define the terminology used in financial record-keeping systems, such as asset, liability, inventory, net worth, etc. AE09.01
- 02. Correctly record entries in a financial record system. AE09.02

00. Research alternative methods of record keeping. AE10.00

- 01. Compare computer software programs designed to aid record keeping. AE10.01
- 02. Examine the Internet for methods of record-keeping assistance. AE10.02

00. Research customer relations techniques for working in agricultural mechanics businesses. AE11.00

- 01. Apply customer relations techniques in an agricultural mechanics business situation. AE11.01
- 02. Compare various markets, marketing methods, and salesmanship techniques in the agricultural mechanics industry. AE11.02

00. Investigate techniques for marketing agricultural mechanics products and services. AE12.00

- 01. Design advertisements and arrange displays of agricultural mechanics products and services which appeal to the public. AE12.01
 - 02. Explain the principles of supply and demand. AE12.02
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Safe Work Practices

00. Describe safety aspects of agricultural mechanics. AE13.00

- 01. Explain safety rules including color codes and the importance of good housekeeping. AE13.01
 - 02. Research safety aspects of agricultural mechanics. AE13.02
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Agricultural Tools

00. Demonstrate the safe use of agricultural mechanics hand tools. AE14.00

- 01. Explain the uses of agricultural mechanics hand tools. AE14.01
 - 02. Use agricultural mechanics hand tools properly and safely. AE14.02
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00. Demonstrate the proper use of agricultural mechanics power tools. AE15.00

- 01. Explain the uses of power tools to perform tasks in agricultural mechanics. AE15.01
 - 02. Use agricultural mechanics power tools properly and safely. AE15.02
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Electric Wiring

00. Explain principles of electricity. AE16.00

- 01. Define common electrical terms. AE16.01
 - 02. Compute electrical energy use and cost. AE16.02
 - 03. Investigate safe practices involving electricity. AE16.03
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00. Explore basic electrical wiring. AE17.00

- 01. Describe materials used in electric wiring. AE17.01
 - 02. Explain the procedure for installing switches, making common splices, and doing other electrical wiring tasks. AE17.02
 - 03. Install switches, receptacles, and light fixtures. AE17.03
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Concrete

00. Examine materials needed for concrete. AE18.00

- 01. Describe characteristics of concrete ingredients. AE18.01
 - 02. Explain the procedure for mixing concrete. AE18.02
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00. Perform various concrete skills. AE19.00

- 01. Distinguish between site preparation, placing, finishing, and curing. AE19.01
 - 02. Demonstrate basic concrete tasks. AE19.02
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Carpentry

00. Explore wood construction materials. AE20.00

- 01. Describe grades of lumber and plywood. AE20.01
 - 02. Calculate board feet. AE20.02
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00. Use nails, staples, screws, bolts, nuts, washers, and corrugated fasteners. AE21.00

- 01. Identify types of fasteners. AE21.01

02. Use wood fasteners. [AE21.02](#)

00. Plan cost-effective construction. [AE22.00](#)

01. Explain major factors to consider in planning new construction or repair work. [AE22.01](#)

02. Calculate the amount of materials needed for a construction project. [AE22.02](#)

03. Explain the purpose of sketching construction plans including the types of drawings used. [AE22.03](#)

04. Construct a carpentry project. [AE22.04](#)

Paints And Preservatives

00. Prepare materials for painting. [AE023.00](#)

01. Describe problems in surface preparation and paint application. [AE23.01](#)

02. Compare different painting techniques and the tools and supplies needed. [AE23.02](#)

Metal Skills

00. Research cold metal skills. [AE24.00](#)

01. Explain which skills are needed to perform cold metal tasks. [AE24.01](#)

02. Identify, cut, drill, bend, shape, file, and grind cold metals. [AE24.02](#)

00. Demonstrate proper procedures for oxyacetylene processes. [AE25.00](#)

01. Examine oxy-fuel procedures. [AE25.01](#)

02. Explain how cutting and welding tips are used to cut and weld metal. [AE25.02](#)

00. Research arc welding equipment. [AE26.00](#)

01. Compare types of arc welding machines, welding equipment, and electrodes. [AE26.01](#)

02. Describe the uses of arc welding equipment. [AE26.02](#)

00. Demonstrate basic arc welding. [AE27.00](#)

01. Explain basic arc welding procedures. [AE27.01](#)

02. Practice basic steps of arc welding in the flat position. [AE27.02](#)

03. Describe types of out-of-position welds. [AE27.03](#)

04. Demonstrate out-of-position welds. [AE27.04](#)