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## SECTION HEADING

### AGRI 2222: Current Technical Competencies

#### Description

Current Technical Competencies introduces instructional and laboratory experiences to learners that are preparing for a career as an Agricultural Education teacher. The course will include laboratory experiences building basic mechanical and technological competence in manufacturing and workshop mechanics. Students will be expected to gain competence in a wide variety of skills including, but not limited to welding, small engines, fluid power, hydraulics and pneumatics. Teaching and learning strategies will demonstrate research based best practices that are proven effective in teaching manufacturing and mechanical technologies to high school students.

#### Credits

3

#### Prerequisite

None

#### Corequisite

None

#### Topics to be Covered

1. Laboratory Management
2. Laboratory Tools
3. Small Engine Mechanics
4. Welding Fundamentals
5. Fluid Power
6. Hydraulics/Pneumatics

#### Learning Outcomes

1. Develop a safe attitude and ability to safely learn in a laboratory setting
2. Identify, use, maintain and repair tool and equipment in the laboratory setting
3. Analyze a laboratory facility layout, including work zones, safety considerations, first aid stations, and fire extinguishers
4. Understand, interpret and incorporate the underlying principles and practices in mechanical / technological processes
5. Analyze the physical properties of metals used in fabrication
6. Demonstrate safe and effective use of welding techniques.
7. Develop an understanding of and appreciation for mechanical processes in the areas of power and welding.
8. Identify skills exhibited by a mechanical / technical craftsperson.
9. Recognize quality in finished products.
10. Develop self-confidence in mechanical/technical aptitudes and skills
11. Develop the ability to make appropriate judgement decisions in the laboratory.
12. Utilize authentic teaching / learning strategies and assessments

#### Credit Details

Lecture: 1

Lab: 2

OJT: 0

MnTC Goal Area(s): None