South Central College

MEAG 1610  Ag Equipment Maintenance

Course Outcome Summary

Course Information
Description
The course covers basic harvesting, tillage and planting equipment. The student will learn all component parts and proper adjustments of equipment. Machine adjustment will be accomplished on demonstration units, operators manual examples, actual equipment. Students will also perform several shop projects such as flaring, tap and die, chain saw sharpening, thread repair and others.

Total Credits 3
Total Hours 64

Pre/Corequisites
None

Institutional Core Competencies
Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Practice safety at all times.
   Learning Objectives
   Wear safety glasses at all times when in the shop
   Always use jack-stands and cylinder stops when working on equipment
   Do not weld or torch near flammable materials
   Keep fire extinguishers updated on all equipment
   Make a safety checklist

2. Describe combine harvesting operations
   Learning Objectives
   Describe different heads used for gathering
   Describe cylinder thrashing operation
   Describe rotary thrashing operation
   Describe separating process
   Describe the cleaning process
   Describe the handling process

3. Describe primary tillage
Learning Objectives
Describe primary tillage
Describe moldboard plow
Describe offset disc
Describe disc ripper
Describe chisel plow
Describe subsoiler

4. Describe secondary tillage
Learning Objectives
Describe secondary tillage
Describe field cultivator
Describe tandem disc
Describe soil conditioner
Describe strip tillage
Describe no-till
Describe ridge till

5. Describe planting operations
Learning Objectives
Describe planter operations
Describe finger planters
Describe air planters
Describe vacuum planters
Describe importance of seed depth
Describe importance of closing wheels
Describe types of fertilizer applications
Describe pesticide application
Describe drill operation

6. Perform flaring
Learning Objectives
Perform tube cutting
Perform tube preparation
Perform flaring operation
Perform a double flaring operation

7. Perform tap & die project
Learning Objectives
Perform metal preparation
Perform pilot hole
Perform tapping operation
Perform thread cutting operation

8. Perform sharpening project
Learning Objectives
Explain tool care and repair
Perform chisel sharpening
Perform drill bit sharpening
Perform chain saw sharpening
Perform screwdriver dressing

9. Perform thread repair
Learning Objectives
Explain different types of thread repair
Perform heli coil repair
Perform keen sert repair
Explain self tapping bolt repair
10. **Perform transit grade project**

   Learning Objectives
   - Explain the use of a transit
   - Perform transit set up
   - Perform reading transit
   - Perform % of slope problem
   - Perform running grade for a drain field

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