



South Central College

AGME 1891 Hydraulic Theory 1

Common Course Outline

Course Information

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| Description | This course basic hydraulic system used agricultural equipment. This course will focus on the basic principles and the study of hydraulic components that make up the hydraulic systems. The student must read and sign the safety eyeglass from required by the state. *If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. 1 Cr (0 lecture/presentation, 1 lab, 0 other). |
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| Total Credits | 1 |
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| Total Hours | 32 |
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Types of Instruction

Instruction Type

Credits/Hours

On-Campus Lab

Pre/Corequisites

Enrolled in Ag Service Tech Program, or with instructor approval

Course Outcomes

1. Describe basic hydraulic principles

Learning Objectives

- Compare hydraulic systems
- Explain hydraulic filter operations
- Explain volume, direction and pressure control valves
- Understand electro hydraulic control systems
- Explain hydraulic pump displacement
- Describe open and closed center systems
- Identify vane, piston and gear pump assemblies

2. Analyze hydraulic pump failures

Learning Objectives

- Identify system contamination
- Identify filter operation
- Identify component failure

3. Describe piston type cylinders

Learning Objectives

Identify double and single acting cylinders
Compare balanced and unbalanced cylinders
Explain master slave cylinders operations
Describe vane type cylinders

4. Explain hydraulic pump and motors**Learning Objectives**

Explain hydraulic motor operations
Explain hydraulic pump and motor control operation

5. Identify hydraulic fittings and hoses**Learning Objectives**

Explain hydraulic plumbing selection
Explain hydraulic hose routing and selections

6. Describe hydraulic test equipment**Learning Objectives**

Demonstrate pressure gauge use
Demonstrate flow meter usage
Identify test port placement and usage

7. Be aware of hydraulic safety procedures**Learning Objectives**

Explain safety procedures for testing hydraulic systems.
Identify safety problems with hydraulic equipment.
Acquaint self with procedures if hydraulic accident occurs.

SCC Accessibility Statement

Disability Services provides accommodations and other supports to students with permanent and temporary disabilities that affect their SCC experience. Disabilities may include mental health (anxiety, depression, PTSD), ADHD, learning disabilities, chronic health conditions (migraine, fibromyalgia), sensory disabilities, and temporary disabilities (broken arm, surgery). Common accommodations are extended test time, private room for testing, audiobooks, and sign language interpreter.

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