South Central College

MEAG 1510* Facility Operations Maintenance

Common Course Outline

Course Information

Description
This course includes a detailed look at maintenance and servicing of production facilities: electrical, plumbing, and mechanical equipment. Trouble shooting of ventilation, plumbing, feed lines, curtain controls, and electric motors will be discussed. Included also in the course are practical 120/240 volt wiring, electrical safety, device selection, and installation methods that apply to workers in livestock and production facilities. This course will also cover maintenance of heaters, waste handling, and facility equipment used in livestock facilities. (Prerequisites: None)

Total Credits: 3.00
Total Hours: 64.00

Types of Instruction

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<tr>
<th>Instruction Type</th>
<th>Credits/Hours</th>
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<tr>
<td>Lecture</td>
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<tr>
<td>Lab</td>
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Pre/Corequisites

Prerequisite: None

Institutional Core Competencies

Critical and creative thinking: Students will develop the disposition and skills to strategize, gather, organize, create, refine, analyze, and evaluate the credibility of relevant information and ideas.

Foundations and skills for lifelong learning: Students will display an understanding of learning as a lifelong process through demonstration of a desire to learn, the willingness to apply learning to other areas of their lives, the ability to think and act independently, be willing to take the initiative to get projects done, and demonstrate the ability to reflect upon what has occurred and how it impacts the student and others.

Course Competencies

1. Explain basic wiring techniques.

   Learning Objectives
   - Identify standard voltages.
   - Identify electrical conductors.
   - Describe electrical resistance.
Explain basic wiring diagrams.
Identify safety procedures involved in basic wiring techniques.
Wire various circuits.

2. **Describe basic over current protection.**
   
   **Learning Objectives**
   - Describe circuit breaker usage.
   - Describe circuit protect devices.
   - Identify methods of fuse and breaker replacement.
   - Explain AC, DC, Amps and Ohms function of meter.

3. **Describe Lock out / Tag out procedures.**
   
   **Learning Objectives**
   - Identify company procedures.
   - Demonstrate lock out and tag out procedure.
   - Practice safety rules.

4. **Explain generator service maintenance.**
   
   **Learning Objectives**
   - Describe maintenance schedule.
   - Identify safety issues.
   - Operate generator backup test.

5. **Demonstrate feed system maintenance.**
   
   **Learning Objectives**
   - Describe feed system types.
   - Describe feed system operation considerations.
   - Review feed system maintenance schedule.
   - Perfrom feed system repair.
   - Describe methods of auger system repair.

6. **Demonstrate basic plumbing techniques.**
   
   **Learning Objectives**
   - Describe water system components.
   - Complete plumbing lab tasks.

7. **Describe basic ventilation techniques.**
   
   **Learning Objectives**
   - Identify various ventilation systems.
   - Describe curtain control repair and maintenance.
   - Describe static pressure.
   - Perform basic ventilation system maintenance.

8. **Describe fan controls and trouble shooting techniques.**
   
   **Learning Objectives**
   - Describe fan performance.
   - Describe fan control components.

9. **Repair and maintain medicator devices.**
   
   **Learning Objectives**
   - Describe maintenance considerations.
   - Perform basic medicator maintenance.

10. **Repair and maintain L.P. heaters.**
    
    **Learning Objectives**
    - Describe heater maintenance considerations.
    - Identify safety considerations.
    - Perform basic heater maintenance and repair tasks.
11 **Describe facility waste handling concerns.**
   Learning Objectives
   - Describe facility manure handling system.
   - Identify facility safety considerations.

12 **Describe filter maintenance procedures.**
   Learning Objectives
   - Describe filter maintenance.
   - Identify air leaks.

13 **Explain testing meter functions.**
   Learning Objectives
   - Identify various meter devices.
   - Demonstrate correct meter use.

14 **Describe evaporative cooling systems.**
   Learning Objectives
   - Describe effective cooling system.
   - Describe cool cell maintenance considerations.

15 **Preform facility trouble shooting tasks.**
   Learning Objectives
   - Identify potential trouble shooting needs.
   - Complete facility trouble shooting tasks.

**SCC Accessibility Statement**

If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. This information will be made available in an alternative format, such as Braille, large print, or cassette tape, upon request. If you wish to contact the college ADA Coordinator, call that office at 507-389-7222.

Disabilities page [http://southcentral.edu/academic-policies/disability-rights.html](http://southcentral.edu/academic-policies/disability-rights.html)