

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. AGRI

COURSE NUMBER: 2222

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT: 0

Course Title:
Current Technical Competencies

Catalog 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.

Prerequisites or Necessary Entry Skills/Knowledge:
None

FULFILLS MN TRANSFER CURRICULUM AREA(S)

- ☐ Goal 1: Communication: By meeting the following competencies:
- ☐ Goal 2: Critical Thinking: By meeting the following competencies:
- ☐ Goal 3: Natural Sciences: By meeting the following competencies:
- ☐ Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- ☐ Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- ☐ Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- ☐ Goal 7: Human Diversity: By meeting the following competencies:
- ☐ Goal 8: Global Perspective: By meeting the following competencies:
- ☐ Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- ☐ Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered
Laboratory Management
Laboratory Tools
Small Engine Mechanics
Welding Fundamentals
Fluid Power
Hydraulics/Pneumatics

Student Learning Outcomes
Develop a safe attitude and ability to safely learn in a laboratory setting

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

Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Revised Date: 6/2021