Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. Industrial Technology COURSE NUMBER: INDT1100

NUMBER OF CREDITS: variable credit (1-3) and repeatable (Lecture, Lab)

COURSE TITLE: Welding Fundamentals

CATALOG DESCRIPTION:
Provides the students with an understanding of the welding and cutting processes used in production and repair. The course covers welding shop safety, theory, fundamentals of operation, equipment used, and techniques recommended for welding and cutting processes.

AUDIENCE: Industrial Technology Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) *(Leave blank if not applicable)*
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: None

LENGTH OF COURSE: 1 Semester

THIS COURSE IS USUALLY OFFERED:
Every other year □ fall □ spring □ summer □ undetermined x

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: This course will help students achieve basic knowledge of:
   a. Weld shop safety issues
   b. Welding theory, equipment, processes, and techniques used in industry

2) THinking SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Completing homework (reading, reports, and worksheets)
   b. Participating in classroom discussions
   c. Taking open and closed book quizzes and tests
   d. Complete assigned lab projects
3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Participating in class discussions and reports
   b. Participating in assignments, worksheets, and reports

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Participating in classroom discussions
   b. Working with other students on research
   c. Working with students from other cultures

TOPICS TO BE COVERED:
1. Safety in the welding shop
2. Welding joints and positions
3. Oxyacetylene equipment, setup, operation and supplies
4. Plasma Arc Cutting equipment, setup, operation and supplies
5. Shielded Metal Arc equipment, setup, operation and supplies
6. Gas Metal Arc equipment, setup, operation and supplies
7. Gas Tungsten Arc equipment, setup, operation and supplies
8. Basic metallurgy

LIST OF EXPECTED COURSE OUTCOMES:
1. Students will be able to identify various types of welding equipment and components.
2. Students will have understanding of different weld joints and positions.
3. Students will gain knowledge of various types of metals and how welding processes affect them.
4. Students will be apply skills using various welding processes.

LEARNING/TEACHING TECHNIQUES used in the course are:
- Collaborative Learning
- Problem Solving
- Student Presentations
- Interactive Lectures
- Creative Projects
- Individual Coaching
- Lecture
- Films/Videos/Slides
- Demonstrations
- Other (describe below)
- Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
- Reading
- Tests
- Individual Projects
- Oral Presentations
- Worksheets
- Collaborative Projects
- Textbook Problems
- Papers
- Portfolio
- Group Problems
- Term Paper
- Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES:
To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or via your preferred Telecommunications Relay Service.

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7/30/13