**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

# **GENERAL COURSE INFORMATION**

Course Number: WELD 1352

Course Title: Cutting Processes

Credit Hours: 3

Prerequisite: None

Division/Discipline: Workforce Training and Community Education/Welding

Course Description: Through classroom and/or shop/lab learning and assessment activities, students in this course will: distinguish several types of mechanical and thermal cutting equipment and processes used in the welding trade; demonstrate the safe and correct set up, operation and shut down of the Oxy-fuel (OFC) workstation; demonstrate the safe and correct set up, operation and shut down of the Plasma Arc (PAC) workstation; demonstrate the safe and correct set up, operation and shut down of the Carbon Arc Cutting with Air (CAC-A) workstations; demonstrate safe and proper operation of several types of mechanical cutting equipment; and inspect quality and tolerance of cuts according to industry standards.

# **INSTRUCTOR INFORMATION**

# **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at [disabilityservices@bartonccc.edu](mailto:disabilityservices@bartonccc.edu).

# **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This is one of a series of technical courses for the Welding Technology Certificate program. This course is designed to develop useful, job-oriented skills. It is highly recommended for individuals entering the fields of manufacturing, automotive and heavy equipment repair, or the machine trades.

This course is not intended for transfer.

# **ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Distinguish several types of mechanical and thermal cutting equipment and processes used in the welding trade.
   1. Identify types of cutting process
   2. Define the cutting process advantage
   3. Define the cutting process disadvantage
   4. Identify different components of the cutting process equipment
   5. Describe required safety procedures of the cutting process
   6. Describe the set-up procedures of the cutting process
   7. Use the proper personal protective equipment (PPE) associated with Oxy-fuel (OPC)
2. Demonstrate the safe and correct set up, operation and shut down of the Oxy-fuel (OFC; i.e. acetylene, propane, or MAPP gas) workstation.
   1. Identify safety hazards of the Oxy-fuel (OFC) equipment
   2. Properly set up the Oxy-fuel (OFC) equipment
   3. Properly light and adjust the torch
   4. Make a variety of quality cuts
   5. Properly shut down the Oxy-fuel (OFC) equipment
3. Demonstrate the safe and correct set up, operation and shut down of the Plasma Arc (PAC) workstation.
   1. Use the proper personal protective equipment (PPE) associated with Plasma Arc (PAC)
   2. Identify the safety hazards of the Plasma Arc (PAC) equipment
   3. Properly set up the Plasma Arc (PAC) equipment
   4. Properly shut down the Plasma Arc (PAC) equipment
   5. Make a variety of quality cuts on various types and sizes of metal
4. Demonstrate the safe and correct set up, operation and shut down of the Carbon Arc Cutting with Air (CAC-A) workstations.
   1. Use the proper personal protective equipment (PPE) associated with Carbon Arc Cutting with Air (CAC-A)
   2. Identify the safety hazards of the Carbon Arc Cutting with Air (CAC-A) equipment
   3. Properly set up the Carbon Arc Cutting with Air (CAC-A) equipment
   4. Make a variety of quality gouges and cuts on various metals
   5. Properly shut down the Carbon Arc Cutting with Air (CAC-A) equipment
5. Demonstrate safe and proper operation of several types of mechanical cutting equipment; and inspect quality and tolerance of cuts according to industry standards.
   1. Identify safety hazards of the mechanical cuttingequipment
   2. Use the proper personal protective equipment (PPE) associated with mechanical cutting equipment
   3. Properly set up the mechanical cutting equipment
   4. Make a variety of quality cuts on various metals
   5. Properly shut down the mechanical cuttingequipment

# **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**

1. **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

1. **ATTENDANCE REQUIREMENTS**

# **COURSE OUTLINE**