**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

**FALL 2013**

# **GENERAL COURSE INFORMATION:**

Course Number: OSHA 1972

Course Title: OSHA 2225 Respiratory Protection

Credit Hours: 2 Credits

Prerequisite: NONE

Division/Discipline:

Course Description: This course will cover a variety of respirators, fit testing, and respiratory protection written programs for employers. This course meets the requirements of OSHA 2225 respiratory protection.

# **CLASSROOM POLICY:**

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.

The College reserves the right to suspend a student for conduct that is detrimental to the College's educational endeavors as outlined in the College catalog.

Plagiarism on any academic endeavors at Barton County Community College will not be tolerated. Learn the rules of, and avoid instances of, intentional or unintentional plagiarism.

Anyone seeking an accommodation under provisions of the Americans with Disabilities Act should notify Student Support Services. Additional information about academic integrity can be found at the following link:

<http://academicintegrity.bartonccc.edu/>

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

This course will provide the student with knowledge of OSHA general industry standards and the requirements of 29 CFR 1910.134 that can be used in their workplace. By following these standards, the knowledge learned can be used in present and future employment and will provide employers with a safe workplace for their employees.

The transferability of all college courses will vary among institutions, and perhaps even among departments, colleges, or programs within an institution. Institutional requirements may also change without prior notification. It is the student's responsibility to obtain relevant information from intended transfer institutions to insure that the courses the student enrolls in are the most appropriate set of courses for the transfer program.

# **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.

Outcomes and Competencies

1. Understand the major elements of a respiratory protection program following the requirements in 29 Code of Federal Regulations (CFR) 1910.134 and the Small Entity Compliance Guide
   1. Select the proper respirator for specific task
   2. Describe the procedures for medical evaluation to wear respirators
   3. Demonstrate procedures for qualitative and quantitative fit testing
   4. Demonstrate the proper use, maintenance and care of respirators
   5. Determine breathing air quality
   6. Explain training requirements for employees
   7. Describe the procedures for program evaluation and record keeping
2. Explain the employer’s responsibilities for developing a respiratory protection program that meets the requirements of 29 CFR 1910.134.
   1. Develop a written respiratory protection program with procedures that are specific to a worksite.
   2. Implement the program and update as necessary
   3. Assign a qualified program administrator to run and evaluate the program
      1. Ensure certain requirements of the respiratory protection program are followed by employees who wear a respirator voluntarily (not required by employer or OSHA)

1. Evaluate and select the appropriate respiratory protection, to include using respirators in IDLH atmospheres and firefighting situations.
   1. Assess potential respiratory hazards with use of SDS’s, NIOSH pocket guide, monitoring devices.
   2. Examine OSHA’s Air Contaminants standards 29 CFR 1910.1000
   3. Examine Hazardous Waste Operations and Emergency Response Standards 29 CFR 1910.120(g)(2)
   4. Define what OSHA’s Permissible Exposure Limits (PEL) is, and other measurable terms as Time Weighted Average (TWA), Short term Exposure Limit (STEL), Action Level (AL)
   5. Demonstrate procedures to operate pressure demand or other positive pressure demand SCBA’s for IDLH/Firefighting situations.
   6. Choose proper filters, cartridges and canisters to be used on selected respirators
2. Define relevant air contaminant terms and describe how to use them.
   1. Describe respiratory hazards
      1. Particulates
      2. Gases and Vapors
      3. Oxygen Deficiency
   2. Describe Air Contaminant Concentrations
      1. Gases and Vapors (ppm)
      2. Particulates (mg/m³)
      3. Fibers (f/cc)
   3. Describe and explain exposure limits and organizations that use them.
      1. American Conference of Governmental Industrial Hygienists (ACGIH)
         1. TLV, STEL,C
      2. National Institute for Occupational Safety and Health (NIOSH)
         1. Recommended Exposure Limit (REL)
      3. OSHA
         1. PEL
3. List OSHA’s medical evaluation requirements and describe the information requested by the questionnaire in Appendix C 29 CFR 1910.134.
   1. Prepare the Respirator Medical Evaluation Questionnaire
   2. Describe selected physiological and psychological responses to wearing a respirator
   3. Identify Physician Licensed Health Care Professional (PLHCP) requirements
      1. Identify reasons for a follow-up examination
      2. Prepare written recommendation of employee ability to wear respirator
      3. Describe when employee may need additional medical evaluation
4. Describe the procedures for Qualitative Fit Testing (QLFT) and Quantitative Fit Testing (QNFT) per Appendix A 29 CFR 1910.134
   1. Explain reason for fit testing
   2. Describe difference between Qualitative and Quantitative fit testing
   3. Explain difference between user seal check and fit test
5. Describe the procedures for inspection, cleaning, disinfecting, storage and repair of respirators.
   1. Demonstrate proper inspection procedures for specific respirators according to the manufacture recommendation.
   2. Demonstrate proper cleaning, disinfection, and storage of respirators according to the manufacture recommendation.
   3. Demonstrate proper repairs to specific respirators
   4. Demonstrate proper inspection, cleaning, inspection, storage and refilling of atmosphere-supplying respirators. (SCBA)
6. List and discuss training requirements found in 29 CFR 1910.134(k) and Appendix D of 29 CFR 1910.134
   1. Explain why a respirator would be necessary
   2. Explain limitations of respirators
   3. Demonstrate and explain use of respirator in emergency situations
   4. Demonstrate and explain procedure to do if respirator malfunctions
   5. Explain when initial and annual training or re-training is required
7. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS:** 
   1. Students must attend all sessions, participate in discussions, exercises and pass end of course exam with a 70% minimum.

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS:**

# Text book will be supplied by Host facility

# **REFERENCES:**

# 29 CFR 1910.134

* 1. Small Entity Compliance Guide for Respiratory Protection Standard

# **METHODS OF INSTRUCTION AND EVALUATION:**

# Formal classroom lectures, hand on demonstrations and final exam

# **ATTENDANCE REQUIREMENTS:**

# Students are required to attend **all** training sessions and pass final exam to receive OSHA’s 2225 Respiratory Protection certificate

1. **COURSE OUTLINE:**

Day 1: Course Opening

Student Data forms,

Objectives and training materials

Pre-Test

Who is covered by OSHA’s respiratory program standard

Employers Responsibilities

Relevant terms and definitions

Day 2. Definition of respirators; classes and operational modes of respirators

Air purifying respirators

Atmosphere supplying respirators

Combination type C/air purifying respirators

NIOSH/OSHA references

Practical exercise in respirator selection

Inspection and maintenance of respirators

Day 3. Respiratory Protection Program requirements

Responsibilities of employers and employees

Medical evaluation requirements and responsibilities

Fit Testing

Day 4. Sanitizing of respirators by students

Summarize what was covered during course

Post test

Course evaluations

Certificate of Completion