DATE OF LAST REVIEW: 02/2013

CIP CODE: 48.0501

SEMESTER: Departmental Syllabus

COURSE TITLE: Safety (OSHA 10 or 30)

COURSE NUMBER: MACH0101

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

PREREQUISITES: Fundamentals of Mathematics w/ a grade of "C" or higher or appropriate score on the Math assessment test.

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckcc.bookstore.com, for the required texts for your particular class.

COURSE DESCRIPTION:
This course will locate and apply OSHA safety and health standards, policies and procedures. Introduce OSHA standards and regulations to supplemental an on-going safety and health program. Identify common violations of OSHA standards and propose abatement actions. Describe appropriate abatement procedures for selected safety and health hazards.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. The OSHA Act and history:
   A. Importance of the legislation
   B. OSHA purpose
   C. The acts coverage
D. Standards  
E. Record keeping  
F. Penalties  

II. Part 1903 inspections:  
A. Background  
B. Authority for inspections  
C. Advanced notice of inspections  
D. Employees and inspections  
E. Violation types  
F. Abatements  

III. Intro to OSHA standards:  
B. Consensus standards  
C. Proprietary standards  
D. Horizontal and vertical standards  
E. Standards development  
F. Standards adoption  
G. Subparts  
H. Reading standards  

IV. Hazard violation workshop:  
A. Introduction to 29 CFR 1910 standards  
B. Understanding numbering system within CFR 1910  

V. Safety and health programs:  
A. Introduction. (VPP)  
B. Exemplary workplaces  
C. Employee involvement  
D. Hazard prevention  
E. Alliances  

VI. Walking / working surfaces:  
A. Background  
B. Definitions  
C. Housekeeping  
D. Aisles  
E. Floor loading  
F. Guarding  
G. Openings  
H. Stairways  
I. Railings  
J. Ladders  

VII. Electrical safety:  
A. Introduction  
B. General requirements  
C. Identification  
D. Working space  
E. Guarding  
F. Wiring design
VIII. Safety related work practice:
   A. Training
   B. Deenergized parts
   C. Energized equipment
   D. Illumination
   E. Confined spaces
   F. Apparel. (PPE)
   G. Interlocks

IX. Personal protective equipment:
   A. General requirements
   B. Hazard assessment
   C. Training
   D. Eye and face protection
   E. Respiratory protection
   F. Head protection
   G. Foot protection
   H. Hand protection

X. Welding, cutting, brazing:
   A. General requirements
   B. Guards
   C. Restrictions
   D. Combustible materials
   E. Fire extinguishers
   F. Fire watches
   G. Authorization
   H. PPE
   I. Ventilation
   J. Precautionary labels
   K. Storage of cylinders
   L. Operating procedures
   M. Safety

XI. Industrial hygiene:
   A. Toxic and hazards
   B. Air contaminants
   C. TLV, TWA, PPM, PEL
   D. Silica
   E. Asbestos
   F. Lead

XII. Hazard communication:
   A. Purpose
   B. Background MSDS
   C. Requirements and responsibilities
   D. Hazard definitions
   E. Target organ effects
   F. Documentations

XIII. Miscellaneous:
A. Hand tools
B. Guards
C. Electrical tools
D. Pneumatic tools
E. Fasteners
F. Jacks

IVX. Recordkeeping:
A. Forms
B. Recording requirements
C. Fatalities

XV. Hazardous materials:
A. Compressed gases
B. Moving cylinders
C. Storage of cylinders
D. Flammable gases
E. Combustible liquids
F. Portable tank storage
G. Egress
H. Handling
I. Highly hazardous chemicals

XVI. Permit-required confined spaces:
A. Confined space definitions
B. Permit requirements
C. Training

XVII. Control of hazardous energy:
A. Exemptions
B. Definitions
C. General requirements
D. Energy control procedures
E. Protective materials and hardware
F. Inspections
G. Training
H. Shutdowns
I. Lock out procedures

XVIII. Machine Guarding:
A. Types of guarding
B. Hand tools
C. Barrels, containers and drums
D. Woodworking machinery
E. Machine controls
F. Band saws
G. Guard design
H. Power presses

XIX. Materials handling:
A. Mechanical equipment
B. Storage
C. Housekeeping
D. Training
E. Powered industrial trucks
F. Battery storage
G. Cranes
H. Wire rope slings

XX. Exit routes and fire protection:
   A. Coverage
   B. Definitions
   C. Basic requirements
   D. Discharge routes
   E. Maintenance
   F. Action plans

EXPECTED LEARNER OUTCOMES:
A. The student will be able to understand the importance of OSHA.
B. The student will be able to document information for OSHA requirements.
C. The student will be able to relate to background information related to OSHA.
D. The student will be able to identify violation types.
E. The student will be able to identify OSHA standards.
F. The student will be able to locate standards in CFR 1910
G. The student will be able to identify exemplary safety and health programs.
H. The student will be able to recognize hazards in the work place.
I. The student will be able to define safe walking working conditions.
J. The student will be able to identify with electrical safety and conditions.
K. The student will be able to identify safe work practices.
L. The student will be able to select PPE.
M. The student will be able to recognize welding requirements and hazards.
N. The student will be able to recognize industrial hygiene hazards.
O. The student will be able to recognize the importance of MSDS documentation.
P. The student will be able to identify hazards and corrective actions for hand tools.
Q. The student will be able to maintain records for recordkeeping.
R. The student will be able to recognize storage and handling of hazardous materials.
S. The student will be able to identify confined spaces.
T. The student will be able to conduct energy control procedures.
U. The student will be able to properly identify material handling equipment.
V. The student will be able to inspect emergency evacuation routes and document findings.

COURSE COMPETENCIES:
Upon completion of this course:

The student will be able to understand the importance of OSHA.
1. The student will be able to define the importance of OSHA.
2. The student will be able to recognize the standards set by OSHA.
The student will be able to document information for OSHA requirements.

3. The student will be able to maintain records required by OSHA.
4. The student will be able to recognize penalties set by OSHA.

The student will be able to relate to background information related to OSHA.

5. The student will be able to identify and recognize inspection authorities.
6. The student will be able to recognize notice for inspections.

The student will be able to identify violation types.

7. The student will be able to recognize violations and realize fines that can be accessed.
8. The student will be able to follow abatement process.

The student will be able to identify OSHA standards.

9. The student will be able locate CFR standards.
10. The student will be able to identify subparts of standards.
11. The student will be able to interpret standards in CFR 1910.

The student will be able to locate standards in CFR 1910

12. The student will be able to identify the numbering system implemented in CFR 1910.

The student will be able to identify exemplary safety and health programs.

13. The student will be able to identify with safety and health standards.
14. The student will be able to act in employee safety prevention programs.

The student will be able to recognize hazards in the work place.

15. The student will be able to participate in hazard prevention programs.
16. The student will be able to create alliances with other originations or departments.

The student will be able to define safe walking, working conditions.

17. The student will be able to define safe working, walking conditions.
18. The student will be able to maintain safe housekeeping procedures.
19. The student will be able to determine safe floor loading conditions.
20. The student will be able to recognize safe floor, platform openings conditions.
21. The student will be able to access stairways for safety.
22. The student will be able to access safe railing conditions.
23. The student will be able to determine safe ladder conditions.

The student will be able to identify with electrical safety and conditions.

24. The student will be able to recognize general electrical requirements.
25. The student will be able to identify safe working spaces with electrical equipment.
26. The student will be able to identify safe guarding procedures in electrical equipment.
27. The student will be able to recognize safe wiring practices.

The student will be able to identify safe work practices.

28. The student will be able to identify training practices in energized equipment.
29. The student will be able to identify training practices in de energized equipment.
30. The student will be able to identify the importance of illumination of workspaces.
31. The student will be able to identify confined space illumination practices.
32. The student will be able to identify PPE.
33. The student will be able to determine interlocks and there importance.

*The student will be able to select PPE.*

34. The student will be able to describe general requirements for PPE.
35. The student will be able to determine hazard assessments for proper PPE.
36. The student will be able to determine the proper PPE for the conditions.
37. The student will be able to access proper ventilation standards for applications.
38. The student will be able to identify precautionary labeling and marking of storage containers or areas.
39. The student will be able to identify safe working conditions for welding.

*The student will be able to recognize welding requirements and hazards*

40. The student will be able to recognize toxic hazards.
41. The student will be able to identify potential air contaminants.
42. The student will be able to relate the terms TLV, TWA, PPM, and PEL Values.
43. The student will be able to identify silica, asbestos, lead. hazards.

*The student will be able to recognize industrial hygiene hazards.*

44. The student will be able to interpret and locate MSDS information.
45. The student will be able to identify hazard definitions.

*The student will be able to recognize the importance of MSDS documentation.*

46. The student will be able to identify target organ effects.
47. The student will be able to document necessary precautions related to MSDS.

*The student will be able to identify hazards and corrective actions for hand tools.*

48. The student will be able to recognize hazards associated with hand tools.
49. The student will be able to recognize guarding of equipment.
50. The student will be able to recognize hazards with electrical, pneumatic and jacks.
51. The student will be able to recognize fastening procedures.

*The student will be able to maintain records for recordkeeping.*

52. The student will be able to identify forms and requirements set forth by OSHA.

*The student will be able to recognize storage and handling of hazardous materials*

53. The student will be able to identify storage procedures of compressed cylinders.
54. The student will be able to adhere to moving of cylinders of compressed gasses.
55. The student will be able to follow storage of flammable gases and liquids.
56. The student will be able to identify egress.
57. The student will be able to follow procedures to transport or move hazardous materials, liquids and or gasses.
58. The student will be able to identify highly hazardous chemicals and determine proper handling and storage methods.
The student will be able to identify confined spaces.

60. The student will be able to identify confined spaces.
61. The student will be able to determine permit requirements for confined spaces.

The student will be able to conduct energy control procedures.

62. The student will be able to describe definitions related to electrical requirements.
63. The student will be able to describe energy control procedures.
64. The student will be able to dawn PPE for electrical safety.
65. The student will be able to conduct inspection procedures.
66. The student will be able to conduct shut down procedures.
67. The student will be able to describe and perform lock-out procedures.
68. The student will be able to identify type of guarding methods.
69. The student will be able to identify container handling procedures.
70. The student will be able to identify types of woodworking guarding methods.
71. The student will be able to inspect machine control methods.
72. The student will be able to discuss guarding types.
73. The student will be able to discuss power press guarding.

The student will be able to properly identify material handling equipment.

74. The student will be able to identify material handling equipment.
75. The student will be able to identify storage procedures.
76. The student will be able to identify safety related to powered trucks.
77. The student will be able to conduct inspections of storage of batteries.
78. The student will be able to identify safety of cranes.
79. The student will be able to inspect slings and wire rope handling equipment.

The student will be able to inspect emergency evacuation routes and document findings.

80. The student will be able to identify basic coverage in exit plans.
81. The student will be able to identify the basic discharge routes.
82. The student will be able to describe action plans described in fire evacuation plans.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed
to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the director of the Academic Resource Center, in Rm. 3354 or call at: 288-7670.