SYLLABUS

DATE OF LAST REVIEW: 08/14/2014

CIP CODE: 46.0302

SEMESTER: Departmental Syllabus

COURSE TITLE: Safety (OSHA 30)

COURSE NUMBER: ELET0100

CREDIT HOURS: 2

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

KCKCC-issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE (S): None

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

COURSE DESCRIPTION: This course is an introduction to various industrial safety and health considerations in the area of Electricity and its use. This course will cover basic safety rules and OSHA standards, identify the proper personal protective equipment needed for common industrial tasks and recognize the need for an ongoing safety program.

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. Organizations of the Safety Network
   A. Discuss the actions that led to the passing of the Occupational Safety & Health Act.
   B. Explain the major functions of OSHA-30.
   C. Identify the major functions of ANSI.
   D. Identify the major functions of NFPA.
   E. Identify the major functions of EPA.

II. Types of Hazards
   A. Health Hazards
      1. Identify safe work environment
      2. Explain problem with repetitive ergonomics
   B. Chemical Hazards
      1. Explain three ways chemical hazards may enter the body.
      2. Identify the types of airborne materials.
      3. Explain how chemicals may be absorbed by the body.
      4. Explain how chemicals may enter the body by ingestion.
   C. Physical Hazards
      5. Explain how loud noise is a physical hazard.
      7. Differentiate between ionizing and non-ionizing radiation.
      8. Explain the dangers of temperature extremes.
      9. Explain the dangers of pressure extremes.
   D. Biological Hazards
      10. Define virus.
      11. Define bacteria.

III. Material Safety Data Sheet (MSDS)
   A. Describe the purpose of a MSDS.
   B. List the major components of a MSDS.
   C. Analyze a sample MSDS.

IV. Personal Protective Equipment (PPE)
   A. Explain the term PPE.
   B. List potential hazards for the eyes.
   C. Describe PPE to protect the face.
   D. Describe types of hearing protection.
   E. Describe types of protection for the respiratory system.
   F. Describe PPE to protect the hands, arms and palms.

V. Fire Safety
   A. Define the fire triangle.
   B. Identify special fire-hazard materials.
   C. Explain fire-safety housekeeping.
   D. List four types of fire extinguishers.
   E. Match the correct fire extinguisher to the type of fire listed.
VI. Lock out and Tag out (LO/TO)
   A. Explain the need for a “Lock out-Tag out” Program.
   B. Define an Energy Control Program (ECP).
   C. Identify LO/TO equipment.

VII. Electrical Safety
   A. Identify electric current danger levels (lethal).
   B. Describe factors that enhance electrical shock.
   C. Explain grounding concepts of electricity.
   D. Describe polarized plug and cord-connected equipment.
   E. Describe how to check for electrical hazards on power tools.

VIII. Hand and Power Tool Safety
   A. Identify the hazards of metal cutting tools.
   B. Identify the hazards of miscellaneous cutting tools.
   C. Identify the hazards of electrical tools.
   D. Identify the hazards of air-powered tools.
   E. Identify the hazards of powder-actuated tools.
   F. Identify the hazards of manual lifting.
   G. Identify the hazards of using ladders.
   H. Identify the hazards of rigging and trenching.

EXPECTED LEARNER OUTCOMES:

A. The Student will be able to list the major organizations that make up the safety network and discuss the objectives of each.
B. The Student will be able to define, explain and identify the different types of hazards found in the workplace.
C. The Student will be able to define information found on a Material Safety Data Sheet.
D. The Student will be able to discuss the need for personal protection equipment.
E. The Student will be able to discuss the need for identifying fire safety on the job.
F. The Student will be able to explain the need for lock out and tag out for safety.
G. The Student will be able to identify electrical safety on common power tools.
H. The Student will be able to list the possible hazards when using common hand and power tools.
I. The student will be able to explain safety procedures associated with heavy equipment.
J. The student will be able to demonstrate proper hand signals on the job site.
K. The student will be able to explain emergency procedures on the job.
L. The student will be able to explain lifting procedures.
M. The student will be able to demonstrate and explain rigging procedures.
N. The student will be able to use the proper hand signals.

COURSE COMPETENCIES:
Upon successful completion of this course:

The student will be able to explain the role of OSHA in job-site safety.
1. The student will be able to name and explain the major functions of OHSA, ANSI, NFPA and EPA in each safety network.
2. The student will be able to explain the reason why OSHA was created.
3. The student will be able to explain the employer's responsibilities for a safe work environment.
4. The student will be able to explain the documentation required by employers for worker safety.

   The student will be able to explain OSHA'S General Duty Clause and 1926 CFR Subpart C.
5. The student will be able to explain the employer's duty to each employee with regards to a free from hazards workplace.
6. The student will be able to explain the employer's duty to comply with OSHA'S safety and health standards.
7. The student will be able to explain OSHA'S 1926 CFR Subpart C.

   The student will be able to describe the impact of accidents.
8. The student will be able to explain lost production time related to accidents.
9. The student will be able to describe the importance of PPE.
10. The student will be able to describe being alert and focus while on the job.
11. The student will be able to describe the importance of reading and using OSHA Standards.

   The student will be able to identify four high-hazard areas.
7. The student will be able to identify physical hazards.
8. The student will be able to identify health hazards.
9. The student will be able to identify explosion hazards.
10. The student will be able to identify reactive hazards.

   The student will be able to demonstrate hazard recognition and risk assessment techniques.
11. The student will be able to define fire triangle, identify different types of fire hazard materials and list four types of fire extinguishers for different types of fires.
12. The student will be able to recognize health hazards.
13. The student will be able to recognize explosive hazards.
14. The student will be able to demonstrate reactive hazards.

   The student will be able explain the basics of construction health.
15. The student will be able to explain ergonomic hazards.
16. The student will be able to explain Industrial hygiene hazards.
17. The student will be able to explain Chemical hazards.
18. The student will be able to explain Biological hazards.
19. The student will be able to explain the importance of PPE.
The student will be able to identify basic fall, electrical, fire, trenching, materials handling, and heavy equipment hazards, and explain the general safety procedures associated with them.

20. The student will be able to identify lethal electric current, describe factors that enhance electric shock, understand grounding procedures, check polarized plug and demonstrate how to check for electric hazards on power tools.

21. The student will be able to identify special fire-hazard materials.

22. The student will be able to identify hazards of powder actuated tools

23. The student will be able to identify hazard of operating heavy equipment

24. The student will be able to explain general safety procedures on the job.

The student will be able to explain and demonstrate the use of appropriate personal protective equipment.

25. The student will be able to explain the term PPE.

26. The student will be able to list potential hazards for the eyes.

27. The student will be able to explain and demonstrate protection for the respiratory system.

28. The student will be able to explain and demonstrate types of hearing protection.

29. The student will be able to explain and demonstrate PPE to protect hand, arms, and palms.

30. The student will be able to explain and demonstrate PPE to protect the face.

The student will be able to explain and identify the various signs, signals, barricades, markers, and tags used on a job site.

31. The student will be able to explain and identify signs for danger and hazards.

32. The student will be able to explain and identify signals to lift, lower, or stop an operation.

33. The student will be able to explain and identify barricades for safety hazards.

34. The student will be able to explain and identify markers and tags to identify safety hazards and their location.

The student will be able to demonstrate proper housekeeping procedures.

35. The student will be able to demonstrate proper storage of tools.

36. The student will be able to demonstrate clearing worksites of oil and tripping items on the floor.

37. The student will be able to demonstrate clearing the worksite of obstructions.

The student will be able to demonstrate an understanding of assured equipment grounding conductor programs and the use of GCFIs.

38. The student will be able to explain and demonstrate the continuity of grounding.

39. The student will be able to explain and demonstrate the proper use of GFCIs.

The student will be able to demonstrate and explain hand and power tool safety guidelines.

40. The student will be able to demonstrate and explain what to examine on hand tools before using.
41. The student will be able to demonstrate and explain power tools with proper grounding.

42. The student will be able to explain your company or site specific fall protection procedures and requirements.

43. The student will be able to explain proper fall protection gear to be worn.

44. The student will be able to explain proper netting or restraints for fall protection.

45. The student will be able to explain proper procedures and requirements for fall protection.

46. The student will be able to demonstrate and explain the proper use of ladders and scaffolding.

47. The student will be able to explain the proper inspection for ladder use.

48. The student will be able to explain the use of work permits and lockout/tag out procedures.

49. The student will be able to explain the need for work permits.

50. The student will be able to explain the need for lockout and tag out procedures.

51. The student will be able to identify lockout and tag out equipment.

52. The student will be able to demonstrate and explain the emergency procedures for trenching accidents.

53. The student will be able to demonstrate and explain who to contact for trenching accidents.

54. The student will be able to demonstrate and explain shoring up the trench.

55. The student will be able to demonstrate and explain sloping the walls of trench.

56. The student will be able to demonstrate and explain the stability of scaffolding.

57. The student will be able to demonstrate and explain the need for competent inspector.

58. The student will be able to demonstrate and explain the need for an exit.

59. The student will be able to identify the hazards of working around or on heavy equipment.

60. The student will be able to demonstrate proper manual lifting procedures.

61. The student will be able to identify the hazards of falls on heavy equipment.

62. The student will be able to identify the hazards of electrocution around heavy equipment.

63. The student will be able to identify the hazards of being caught-in heavy equipment.

64. The student will be able to identify the hazards of being struck by heavy equipment.
The student will be able to describe proper rigging safety procedures.

66. The student will be able to describe how to identify safe working loads.

67. The student will be able to describe the requirement to remove rigging when not in use.

68. The student will be able to describe the requirement to have inspections on rigging.

69. The student will be able to describe the slings being protected from sharp objects.

The student will be able to demonstrate the use of hand signals.

70. The student will be able to demonstrate proper highly visible clothing.

71. The student will be able to demonstrate how the hand signal is used to stop traffic.

72. The student will be able to demonstrate how the hand signal is used to slow down traffic.

ASSESSMENT OF LEARNER OUTCOME:
Student progress is evaluated by means that include, but 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.