SYLLABUS

DATE OF LAST REVIEW: 07/15/14
CIP CODE: 47.0106
SEMESTER: Departmental Syllabus
COURSE TITLE: Electrical Safety and Tools of the Trade
COURSE NUMBER: MAPR0100
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.

PREREQUISITES: 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 a study of safety measures required for major appliance technicians to recognize and avoid hazards of an electrical or mechanical nature. This class will teach the proper safe use of hand tools, pressurized containers, refrigeration tools, ladders, appliance dollies, and electrical test instruments.

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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. Safety
A. Safe servicing practices
B. Safety Procedures
C. Safety of worker
D. Safety of the equipment
E. Safety of the contents

II. Welding Safety
A. Safety Precautions
B. Cylinders
C. regulators

III. Safe handling of refrigerants
A. Personal Protection
B. Refrigerants under pressure
C. Brazing and welding on system piping

IV. Safety when working on heating equipment.

V. Safety when working on electrical equipment.
A. Electrical shock
B. Care of shock victims
C. Working on energized circuits

VI. Mechanical safety precautions

VII. Refrigeration & Air Conditioning Technology

VIII. Copper tubing tools
A. Flaring block
B. Swaging tool
C. Tube cutter
D. Tube bender
E. MC torch kit

IX. Refrigeration Tools
A. Manifold Gauges
B. Recovery unit
C. Recovery bag
D. Recovery tank
E. Charging Cylinder

X. Measuring Instruments
A. Weight Scales
B. Multi-meter
C. Amp Probe
D. Thermometers

XI. Leak Detectors
   A. Refrigeration
   B. Combustible Gases
   C. Carbon Monoxide
   D. Basic Hand Tools

EXPECTED LEARNER OUTCOMES:

A. The student should be able to explain the different types of hazards found in the workplace.
B. The student should be able to discuss the meaning of the information found on a Material Safety Data Sheet.
C. The student should be able to explain the purpose of a Job Safety & Health Analysis.
D. The student should be able to discuss the need for various types of Personal Protection Equipment (PPE).
E. The student should be able to identify electrical hazards in the workplace.
F. The student should be able to identify and name tools used in the major appliance trade.
G. The student should be able to inspect and maintain tools.
H. The student should be able to safely use and store tools.
I. The student should be able to select the proper tool that the task requires.
J. The student should be able to understand the monetary values of tools and which tools they will be responsible for the purchase of.

COURSE COMPETENCIES:

*The student should be able to explain the different types of hazards found in the workplace.*

1. The student should be able to explain the hazards of pressurized containers.
2. The student should be able to explain the hazards of high voltage testing.
3. The student should be able to explain the hazards of moving heavy equipment.
4. The student should be able to explain the hazards of hand tool usage.

*The student should be able to discuss the meaning of the information found on a Material Safety Data Sheet.*

5. The student should be able to accurately interpret material safety data sheet.

*The student should be able to explain the purpose of a Job Safety & Health Analysis.*

6. The student should be able to explain the purpose of a Job Safety & Health Analysis.

*The student should be able to discuss the need for various types of Personal Protection Equipment (PPE).*

7. The student should be able to discuss the need for safety eyewear.
8. The student should be able to discuss the need for gloves
9. The student should be able to discuss the need for knee protection
10. The student should be able to discuss the need for proper footwear

*The student should be able to identify electrical hazards in the workplace.*

11. The student should be able to properly test outlets for true grounding.
12. The student should be able to inspect electrical cords and electrical hand tools.

*The student should be able to identify and name tools used in the major appliance trade.*

13. The student should be able to name hand tools by sight.

*The student should be able to inspect and maintain tools.*

14. The student should be able to lubricate, clean and inspect tool serviceability.

*The student should be able to safely use and store tools.*

15. The student should be able to demonstrate safely tool use practices.
16. The student should be able to demonstrate tool tie-down practices in a service vehicle.

*The student should be able to select the proper tool that the task requires.*

17. The student should be able to identify which tool is needed for task related activities.

*The student should be able to understand the monetary values of tools and which tools they will be responsible for the purchase of.*

18. The student should be able to estimate the monetary value of tools required.
19. The student should be able to list tools to be purchased.

**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.