SYLLABUS

DATE OF LAST REVIEW: 04/01/2015
CIP CODE: 47.0106
SEMESTER: Departmental Syllabus
COURSE TITLE: Residential Refrigerators and Freezers
COURSE NUMBER: MAPR0230
CREDIT HOURS: 3
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 provides instruction in techniques used to disassemble and identify components, explain operation, trace circuits, diagnose and repair several makes of refrigerators, freezers, icemakers, dehumidifiers and. By learning to trace circuits using wiring diagrams, and to identify, explain the operation, diagnose and repair various and different types of controls, students learn proficiency in this line of work. Customer service, repair order write-up, service and parts manual usage, parts ordering and follow through will be discussed and practiced. Upon successful completion of this course, the student should be able to utilize, on-line, and parts ordering software. This course will teach invoice accounting, parts labeling, retail price calculation, packaging and parts distribution systems.

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. Residential Refrigeration Systems
   A. Refrigeration cycle
   B. Air Flow
   C. Door Seals/Reversal
   D. Control Functions
   E. Defrost Functions
   F. Modular Ice Makers
   G. Ice and water door dispensers
   H. General Maintenance

II. Professional Refrigeration Systems
    A. Air Flow
    B. Door Seals/Reversal
    C. Control Functions
    D. Defrost Functions
    E. General Maintenance

III. Schematics
     A. Refrigerator
     B. Ref. w/defrost
     C. Ref. w/parallel Evaporator
     D. Freezer
     E. Heated Defrost
     F. Hot Gas Defrost
     G. Modular Ice makers
     H. Ice and water door dispensers

IV. Introducing Parts Research and Ordering Systems
    A. Parts are critical
    B. Accuracy
    C. Pictorial Diagrams
    D. Names/Numbers can change
    E. On-line Research
    F. Parts Manuals/Microfiche
    G. Inventory Management
    H. Worksheet Parts list
    I. Manuals

EXPECTED LEARNER OUTCOMES:
A. The student should be able to diagnose/repair electrical failures throughout the control functions of the unit.
B. The student should be able to diagnose/repair electrical failures of load devices.
C. The student should be able to diagnose/repair electrical failures of defrost circuits.
D. The student should be able to replace defective door gaskets.
E. The student should be able to properly level a refrigerator.
F. The student should be able to diagnose/repair ice maker failures.
G. The student should be able to diagnose/repair ice and water dispenser failures.
H. The student should be able to interpret appliance parts manuals.
I. The student should be able to maintain Access database of shop stock parts.
J. The student should be able to navigate on-line web based parts research/ordering software.
K. The student should be able to label parts received and distribute replacement parts to live work.
L. The student should be able to interpret parts distributor invoice, and backorder status.

COURSE COMPETENCIES:

The student should be able to diagnose/repair electrical failures of load devices.
1. The student should be able to diagnose/repair electrical failures of compressor.
2. The student should be able to diagnose/repair electrical failures of condenser fan motor.
3. The student should be able to diagnose/repair electrical failures of evaporator fan motor.

The student should be able to diagnose/repair electrical failures of defrost circuits.
4. The student should be able to diagnose/repair electrical failures of defrost heater.
5. The student should be able to diagnose/repair electrical failures of defrost terminator.
6. The student should be able to diagnose/repair electrical failures of defrost timer.
7. The student should be able to diagnose/repair electrical failures of adaptive defrost control.

The student should be able to replace defective door gaskets.
8. The student should be able to replace a defective door gasket.
9. The student should be able to adjust and level doors.

The student should be able to properly level a refrigerator.
10. The student should be able to read a level.
11. The student should be able to properly adjust wheels and feet.
12. The student should be able to gage proper door swing and closer operation.

The student should be able to diagnose/repair ice maker failures.
13. The student should be able to diagnose/replace Ice mold.
14. The student should be able to diagnose/replace inlet valves.
15. The student should be able to diagnose/replace mold thermostat and thermal limiters.
16. The student should be able to diagnose/replace ice maker drive motors and motor modules.
17. The student should be able to replace interconnecting tubing and watertight connections.
The student should be able to diagnose/repair ice and water dispenser failures
18. The student should be able to diagnose/replace inlet valves
19. The student should be able to diagnose/replace cubed ice solenoid
20. The student should be able to diagnose/replace water reservoir.
21. The student should be able to diagnose/replace ice chute door and linkage.
22. The student should be able to diagnose/replace ice crushing blades and bin auger.
23. The student should be able to diagnose/replace auger motor.

The student should be able to interpret appliance parts manuals
24. The student should be able to identify specific parts and components as provided by a mechanical drawing.
25. The student should be able to accurately determine part numbers by drawing reference number.

The student should be able to maintain Access database of shop stock parts.
26. The student should be able to utilize Microsoft Access program to add to and expend Shop parts inventory.

The student should be able to navigate on-line web based parts research/ordering software
27. The student should be able to acquire part numbers utilizing On-line assets provided via the internet.

The student should be able to label parts received and distribute replacement parts to live work
28. The student should be able to label parts received and distribute replacement parts to live work

The student should be able to interpret parts distributor invoice, and backorder status.
29. The student should be able to report part status accurately bases on invoice information.
30. The student should be able to identify dealer vs. retail pricing
31. The student should be able to calculate prices based on markup percentages.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation. Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor’s syllabus.

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 (913) 288-7670.