DATE OF LAST REVIEW: 02/2013
CIP CODE: 47.0201
SEMESTER: Departmental Syllabus
COURSE TITLE: Basic Sheet Metal Layout/Fabrication
COURSE NUMBER: HVAC0108
CREDIT HOURS: 2
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.
PREREQUISITE(S): HVAC0107

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

COURSE DESCRIPTION:
This course will continue to look at fabrication techniques, special tools, layout fundamentals, and blue print reading.

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. Layout/Fabrication.
   A. Square and Rectangular Duct.
   B. Round Metal Duct Systems.
   C. Insulation for Metal Duct.
D. Ductboard Systems.
E. Flexible Duct.
F. Installing Refrigerant Piping.

EXPECTED LEARNER OUTCOMES:

A. The student will demonstrate an understanding of duct system fabrication and installation.
B. The student will demonstrate an understanding of metal duct fabrication and installation.
C. The student will demonstrate an understanding of ductboard systems fabrication and installation.
D. The student will demonstrate an understanding of flexible duct fabrication and installation.

COURSE COMPETENCIES:
Upon successful completion of this course:

The student will be able to demonstrate an understanding of duct system fabrication and installation.
1. The student will be able to describe the radial or spider duct systems.
2. The student will be able to describe the perimeter loop trunk duct system.
3. The student will be able to describe the plenum, trunk and branch extended plenums.
4. The student will be able to describe the trunk and branch reducing plenums.
5. The student will be able to describe the perimeter loop radial duct system.
6. The student will demonstrate use of tape measures, rulers, and other standard measuring devices.
7. The student must demonstrate mathematical calculations necessary for measuring, marking, cutting and fabricating three dimensional duct systems.

The student will be able to demonstrate an understanding of metal duct fabrication and installation.
8. The student will be able to demonstrate that sheet-metal duct is fabricated in sections in a sheet-metal shop.
9. The student will adhere to standards demanded by precise measurements.
10. Students will demonstrate use of vibration eliminators fan section and duct.
11. The student will be able to demonstrate fastening insulation to either the inside or outside of the duct with tabs, glue, or both.

The student will be able to demonstrate an understanding of ductboard systems fabrication and installation
12. The student will be able to demonstrate use of fiberglass duct board.
13. The student will demonstrate use of gloves, eye protection, and facemask required for use of this material.
14. Students will demonstrate proficiency in cutting fiberglass with special knives.
15. Students will demonstrate techniques of configuring fiberglass duct board to simulate metal ductwork.
16. Students will demonstrate fastening sections with staples and then taped.
17. Students will demonstrate special support techniques for fiberglass work.
18. Students will use fiberglass as a technique for sound absorption and fan noise reduction.

The student will be able to demonstrate an understanding of flexible duct fabrication and installation.

19. The student will be able to demonstrate use of flexible round duct for both supply and return.
20. The student will demonstrate avoidance of sharp configuration changes to maximize airflow.

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.

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