DATE OF LAST REVIEW: 02/2013
CIP CODE: 47.0201
SEMESTER: Departmental Syllabus
COURSE TITLE: Basic Sheet Metal
COURSE NUMBER: HVAC0107
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): HVAC0101

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 introduce students to basic methods of sheet metal fabrication. This course will include basic sheet metal bending, cutting, special tools, all types of screws, rivet assembly, and blue print reading. Students will learn the safe and proper methods of sheet metal work.

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. Basic Sheet Metal  
   A. The Plenum System  
   B. The Extended Plenum System  
   C. The Reducing Plenum  
   D. The Perimeter Loop System  
   E. The Duct System Standards  
   F. Duct Materials  
      1. Galvanized Steel Duct  
      2. Fiberglass Duct  
      3. Spiral Metal Duct  
      4. Flexible Duct  
      5. Combination Duct Systems  
   G. Duct Air Movement  
      1. Takeoff fitting  
      2. Inertia  
   H. Balancing Dampers  
   I. Duct Insulation  
   J. Blending the Conditioned Air with Room Air  
   K. The Return Air Duct System  
   L. Sizing Duct for Moving Air  
   M. Measuring Air Movement for Balancing  
   N. The Air Friction Chart  
   O. Math for Basic Sheet Metal  
   P. Measuring for Basic Sheet Metal  

EXPECTED LEARNER OUTCOMES:  
A. The student will be able to demonstrate an understanding of duct systems.  
B. The student will be able to demonstrate an understanding of good airflow through duct systems.  
C. The student will be able to demonstrate an understanding of a return air system.  
D. The student will be able to demonstrate an understanding of fractions and basic tools of sheet metal work.  

COURSE COMPETENCIES:  

Upon successful completion of this course:  

*The student will be able to demonstrate an understanding of duct systems.*  
1. The student will be able to explain supply air flow throughout the structural.  
2. The student will be able to demonstrate trunk sizing.  
3. The student will be able to demonstrate run sizing.
The student will be able to demonstrate an understanding of good airflow through a duct system.

4. The student will be able to demonstrate duct static pressure.
5. The student will be able to demonstrate Cubic feet per minute (CFM) air flow.
6. The student will be able to explain air turbulence.

The student will be able to demonstrate an understanding of a return air system.

7. The student will be able to demonstrate how to create a low pressure.
8. The student will be able to demonstrate how pressure drops.
9. The student will be able to demonstrate how to find temperature splits.
10. The student will be able to discuss indoor air quality (IAQ).

The student will be able to demonstrate an understanding of fractions.

11. The student will be able to demonstrate addition and subtraction of fractions.
12. The student will be able to demonstrate the ability to write fractions as decimals and percents.
13. The student will be able to demonstrate the ability to convert fractions to decimal form.
14. The student will demonstrate use of a tape measure and other measuring devices.
15. The student will demonstrate use of basic personal safety equipment.
16. The student will identify and learn proper use of standard hand tools.
17. The student will learn safety standards for use of power shears.

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.

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