COURSE INFORMATION FORM

DISCIPLINE  HVAC
COURSE TITLE  Sheet Metal Layout & Fabrication
CR.HR  4  LECT HR.  2  LAB HR.  4  CLIN/INTERN HR.  _______  CLOCK HR.  _______

CATALOG DESCRIPTION
Study of the design, installation, balancing and selection of components for air distribution systems. Lab work includes planning, layout and fabrication of duct work.

PREREQUISITES
None

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Define terms and definitions as applied to sheet metal layout and fabrication.
2. Demonstrate the proper use of hand tools.
3. Demonstrate the proper use of shop equipment used in the cutting, bending and forming of sheet metal.
4. Draw patterns as required for different sheet metal projects.
5. Employ flat pattern development.
6. Employ radial line layout and development.
7. Employ triangulation layout and development.
8. Use parallel line layout and development.
9. Demonstrate an understanding of the business community.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

<table>
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<tr>
<th>Outcomes</th>
<th>ESO</th>
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PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Student will demonstrate the ability to apply foundational skills in an industrial setting safely, and to industry guidelines.
2. Student will demonstrate professional oral and written communication skills.
3. Student will think critically and apply problem-solving skills.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Student participation and in-classroom discussions (1-9)
2. Completion of lab projects (2-8)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Terms and Definitions
   A. Standard geometric
   B. Sheet metal

II. Hand Tools
   A. Special topics
   B. Proper application
   C. Safety

III. Shop equipment
   A. Bending
   B. Cutting
   C. Forming
   D. Spot Welding

IV. Patterns
   A. Drawing
   B. Styles

V. Flat Pattern Development

VI. Radial line layout and development

VII. Triangulation layout and development

VIII. Parallel line layout and development