

SYLLABUS

DIVISION: Business and Engineering Technology

REVISED: Spring/ 2014

CURRICULA IN WHICH COURSE IS TAUGHT: Air Conditioning & Refrigeration

COURSE NUMBER AND TITLE: Air 162- Heating, Air Conditioning, and Refrigeration Calculations

CREDIT HOURS: 3 **HOURS/WK LEC:** 3 **HOURS/WK LAB:** 0 **LEC/LAB COMB:** 3

I. CATALOG DESCRIPTION:

Introduces the function of angles, trigonometric functions, angles of elevation and depression, and powers and roots. Introduces equations for solving HVAC problems, the removal of latent and sensible heat, and the refrigeration cycle.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:

- Acquire an understanding of angles and equations
- Understand the basic Refrigeration Chart
- Gain knowledge on the properties of air

III. REQUIRED BACKGROUND/PREREQUISITIES:

- AIR 161 or Approval

IV. COURSE CONTENT:

- Solution of Equations
- Psychometrics Chart
- Refrigeration Chart

V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE

- **Quantitative Reasoning**
 - 6.1 use logical and mathematical reasoning within the context of various disciplines;
 - 6.2 interpret and use mathematical formulas;
 - 6.3 interpret mathematical models such as graphs, tables and schematics and draw inferences from them;
 - 6.4 use graphical, symbolic, and numerical methods to analyze, organize, and interpret data;
- **Communications**
 - 1.1 understand and interpret complex materials;
 - 1.3 use standard English;
 - 1.4 use listening skills; and
- **Critical Thinking**
 - 2.4 weigh evidence and decide if generalizations or conclusions based on the given data are warranted;
 - 2.5 determine whether certain conclusions or consequences are supported by the information provided; and
 - 2.6 use problem solving skills.

VI. LEARNER OUTCOMES**VII. EVALUATION**

Solution of Equations <ul style="list-style-type: none">• Understanding of math formulas dealing with HVAC problems• Identify and be able to solve for the unknown• Evaluate and plot given values on a graph	Lab exercises Written test Exam
Psychometric Chart <ul style="list-style-type: none">• Understanding of the Psychometric Chart and what each designates• Identify and plot values on the chart to find more information	Lab assignments In class assignments Written test Exam
Refrigeration Chart <ul style="list-style-type: none">• Understanding the theory of the flow of Refrigerant• Identify key components in the Refrigeration Cycle	Chart Test In class Lab