SYLLABUS

DIVISION: Business and Engineering Technology **REVISED:** Spring/2014

CURRICULA IN WHICH COURSE IS TAUGHT: **Air Conditioning & Refrigeration**
COURSE NUMBER AND TITLE: AIR 166 Air Conditioning Systems II
CREDIT HOURS: 3 **HOURS/WK LEC:** 2 **HOURS/WK LAB:** 3 **LEC/LAB COMB:** 5

I. CATALOG DESCRIPTION:

Introduces designing, layout, installation and adjusting duct systems, job costs and bidding of job.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:

- Ability to identify different types of construction materials
- Acquire an understanding of how to perform a heat gain and loss calculation on Wright J computer software
- Gain knowledge on how to figure company overhead, material lists needed for a job, and properly sizing of equipment and ductwork
- Ability to a complete job estimation and job proposal

III. REQUIRED BACKGROUND/PREREQUISTIES:

Satisfactory completion of AIR 165

IV. COURSE CONTENT:

- Duct design
- Heat gain and loss calculations
- Equipment sizing
- Estimating job costs

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

1. Communication

1.1 understand and interpret complex materials;
1.3 use standard English;
1.5 use listening skills; and

2. Critical Thinking

2.6 use problem solving skills.

6. Quantitative Reasoning

6.1 use logical and mathematical reasoning within the context of various disciplines;
6.2 interpret and use mathematical formulas;

VI. LEARNER OUTCOMES

VII. EVALUATION

Duct Design • Understand different types of duct material • Identify the values associated with sizing ductwork properly • Navigate and understand how to properly use a ductulator • Properly design and layout a duct system	**Evaluation method** Lab exercises Projects Written test
Heat and Gain Loss Calculations • Understand the causes of heat loss and heat gain • Identify types of building components and their U values • Ability to navigate and input values properly into Wright J computer software	**Evaluation method** Computer Projects In class assignments
Equipment Sizing • Understand different types of equipment available in the HVAC market • Navigate and determine the proper size of equipment for the job from the house load data • Identify different efficiency values for the same size of equipment	**Evaluation method** Lab exercises In class assignments Written test
Estimating Job Costs • Understand how to figure overhead • Identify all the information needed to complete a job estimate • Ability to compile all the information given and complete a job estimate and proposal	**Evaluation method** Lab exercises In class assignments Written test