

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: ACR 2421

COURSE TITLE: Duct System Design

PREREQUISITE(S): None

COREQUISITE(S): None

CREDIT HOURS: 3

CONTACT HOURS/WEEK: 5

CONTACT HOUR BREAKDOWN:

Lecture/Discussion: 2

Laboratory: 3

FACULTY WORKLOAD POINTS: 3.5

STANDARDIZED CLASS SIZE  
ALLOCATION: 24

COURSE DESCRIPTION:

This course is designed to teach commercial piping applications and brazing techniques. Applications will include commercial and A/C and refrigeration line sizing and troubleshooting.

SUGGESTED TEXT(S): None

IMPLEMENTATION DATE: Fall Term, 2004 (20051)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 (20091) - Outline Review 2007

COURSE TOPICS	CONTACT HOURS <u>PER TOPIC</u>
I. Refrigeration System Vibration and Insulation	5
II. Applications of Vibration Eliminators	5
III. Proper Insulation for Commercial Piping	5
IV. Determine Refrigerant Line Capacities	5
V. Commercial Approved Installation Procedures	20
VI. Troubleshoot Duct System Problems	25
VII. Commercial Refrigeration and Safety	5
VIII. System Dehydration, Charging, and Recovery Procedures	5

PROGRAM TITLE: Air Conditioning, Refrigeration & Heating Systems  
Technology

COURSE TITLE: Duct System Design

CIP NUMBER: 0615050100

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

- 03.0 APPLY TUBING, PIPING, SOLDERING AND BRAZING SKILLS -- The student will be able to:
- 03.01 Identify and explain various types of heating, air conditioning and refrigeration piping.
  - 03.02 Calculate and size various types of heating, air conditioning, and refrigeration piping for various tasks.
  - 03.03 Explain pressure and temperature drops.
  - 03.04 Identify and explain Duct System Design



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

<i>Section 1</i>	
COURSE PREFIX AND NUMBER: <u>ACR 2421</u>	SEMESTER CREDIT HOURS: <u>3</u>
COURSE TITLE: <u>Duct System Design</u>	

*Section 2*

TYPE OF COURSE: (Click on the box to check all that apply)

AA Elective                       AS Required Professional Course                       College Prep  
 AS Professional Elective     AAS Required Professional Course                       Technical Certificate  
 Other \_\_\_\_\_  
 General Education: (For General Education courses, you must also complete Section 3 and Section 7)

*Section 3 (If applicable)*

INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

Communication                       Social & Behavioral Sciences                       Mathematics  
 Natural Sciences                       Humanities

*Section 4*

INTELLECTUAL COMPETENCIES:

Reading     Speaking     Critical Analysis     Quantitative Skills     Scientific Method of Inquiry  
 Writing     Listening     Information Literacy     Ethical Judgment     Working Collaboratively

<i>Section 5</i>		
LEARNING OUTCOMES		METHOD OF ASSESSMENT
•	Utilize manual and power tools.	ARI Module Certification Score 70% or better
•	Apply knowledge of air flow.	ARI Module Certification Score 70% or better
•	Read and interpret building codes.	ARI Module Certification Score 70% or better
•	Read blueprints.	ARI Module Certification Score 70% or better
•	Apply basic heat gain, heat loss and design skills.	ARI Module Certification Score 70% or better
•	Apply piping, soldering and brazing skills.	ARI Module Certification Score 70% or better
•	Demonstrate appropriate math skills.	ARI Module Certification Score 70% or better
•	Communicate effectively.	ARI Module Certification Score 70% or better
•	Demonstrate problem solving skills.	ARI Module Certification Score 70% or better
•	Identify safe working conditions and observe safety precautions.	ARI Module Certification Score 70% or better

*Section 6*                      Name of Person Completing This Form: Jim Yurko