



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title - Mechanical and Electrical Systems

Course Prefix and Number – CNST 2321

Department - Engineering Design

Division - Technology and Business

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core) Unique Needs
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours # : Lecture Hours # : Lab/Other Hours # 3:3:0

Equated Pay hours for course - 3

Course Catalog Description - Introduction to the planning and construction of mechanical and electrical systems common to construction projects. Basic calculations of cooling/heating loads, determination of temporary power demands and sizing of pipes, AC equipment and ducts.

Prerequisites/Co-requisites – CNST 1361

List Lab/ Other Hours
Lab Hours
Clinical Hours
Practicum Hours
Other (list)

Prepared by Jo Ann Shimek

Date 1-23-14

Reviewed by Department Head Jo Ann Shimek

Date 1-23-14

Accuracy Verified by Division Chair David Kucera

Date 1/31/14

Approved by Dean or Vice President of Instruction Amy LaPan

Date 3/20/2014



I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

- Overview of Mechanical and Electrical Systems
- Building codes and standards
- HVAC Systems Types, Design and Installation
- Plumbing Systems Design and Installation
- Fire Protection Design and Installation
- Electrical Systems Design and Installation
- Communication Systems Design and Installation
- Lighting Systems Design and Installation
- Noise and Vibration Control

II. Course Learning Outcomes

Learning Outcomes	Methods of Assessment
<p>Upon successful completion of this course, students will:</p> <p>Upon the completion of the course students will demonstrate the ability to:</p> <ul style="list-style-type: none"> Identify the components of basic mechanical and electrical systems Explain the basic design principles of mechanical and electrical systems Perform simple calculations of cooling/heating loads/power demands Explain selected installation methods for basic mechanical and electrical systems Evaluate related building codes and standards 	<p>Daily work Tests Semester project</p>

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

Mechanical and Electrical Systems in Buildings, by Tao and Janis, Prentice Hall

IV. Suggested Course Maximum - 20

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

None

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

- Daily Work - 20%
- Four major tests (drop the lowest one) –* 3 = 60%
- Semester Project – 20%

- A = 100 -90
- B = 89-80
- C = 79-70
- D = 69-60
- F = 59 or below

"C" or above in all degree specific classes

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:
 - Basic Intellectual Competencies
 - Perspectives
 - Exemplary Educational Objectives

- **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.