Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Motors and Transformers
Course Prefix, Num. and Title	ELPT 2305 Motors and Transformers
Division	Vocational Science
Department	Air Conditioning, Heating, Refrigeration and Electrical Technology
Course Type	WECM Course
Course Catalog Description	Operation of single- and three-phase motors and transformers. Includes transformer banking, power factor correction, and protective devices.
Pre-Requisites	ELPT 1321 and ELPT 1325; or Program Director Approval
Co-Requisites	Enter Co-Requisites Here.

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	3:2:4
Equated Pay Hours	4
Lab/Other Hours Breakdown: Lab Hours	4
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Prepared by:	Robert Sanchez Digitally signed by Robert Sanchez Date: 2020.08.21 08:33:05 -05'00'	08-21-2020
Department Head:	Robert Sanchez Digitally signed by Robert Sanchez Date: 2020.08.21 08:19:01 -05'00'	08-21-2020
Division Chair:	Timothy Guin Digitally signed by Timothy Guin DN: cn=Timothy Guin, o=Division Chair, ou=VOCS, email=guint@wcjc.edu, c=US Date: 2020.08.21 14:04:20 -05'00'	08-21-2020
Dean/VPI:	Paul Quinn Digitally signed by Paul Quinn DN: cn=Paul Quinn, o=DVI, ou=WCJC, email=quinnp@wcjc.edu, c=US Date: 2020.08.25 12:52:22 -05'00'	
Approved by CIR:	Paul Quinn Digitally signed by Paul Quinn DN: cn=Paul Quinn, o=DVI, ou=WCJC, email=quinnp@wcjc.edu, c=US Date: 2020.08.25 12:52:40 -05'00'	

Additional Course Information

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

- Single-phase motors
- three-phase motors
- wye and delta connections
- overcurrent protection

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

(1) Match the type of single-phase motor with its principles of operation

(2) Compare the operating characteristics of the three types of three-phase motors

(3) Explain the advantages of Wye and Delta connections in motor and transit applications

(4) Size overcurrent, short circuit, and ground fault protective devices

(5) Utilize nameplate information

Methods of Assessment:

1) Classroom and lab exercises, and quiz and examination questions

2) Classroom and lab exercises, and quiz and examination questions

3) Classroom and lab exercises, and quiz and examination questions

4) Classroom and lab exercises, and quiz and examination questions

5) Classroom and lab exercises, and quiz and examination questions

Required text(s), optional text(s) and/or materials to be supplied by the student:

Electricity for Refrigeration, Heating and Air Conditioning Delmar Cengage Learning ISBN 13:978-1-111-03874-8

Suggested Course Maximum:

30

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

Fully equipped HVAC and Electrical Lab

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

90% to 100% = A

80% to 89% = B
70% to 79% = C
60% to 69% = D
Below 60% = F

The semester final grade is based on the percentage basis between daily lab work, daily classroom assignments, and semester final.

Daily lab work counts for 50% of final: Daily Classroom work is 20% of final: End of semester written final and lab final is 30% of final average.

Curriculum Checklist:

☐**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

☐**Administrative WCJC Core Course**. Attach the Core Curriculum Review Forms

- ☐Critical Thinking
- ☐Communication
- ☐Empirical & Quantitative Skills
- ☐Teamwork
- ☐Social Responsibility
- ☐Personal Responsibility

☒**WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist