Bossier Parish Community College
Master Syllabus

Course Prefix and Number: TEED 252 **Credit Hours:** 4-3-3

Course Title: Electric Motor Controls and Laboratory

Course Prerequisite: TEED 101

Textbook(s): Mazur and Rockis. Electrical Motor Controls, 5th edition. American Technical, 2013. ISBN: 9780826912268

Rockis and Mazur. Electrical Motor Controls Workbook, 5th edition. American Technical, 2013. ISBN: 9780826912275

Course Description: Basic theory of operation of electric motors with emphasis placed on tools, safety, symbolism and line diagrams. Topics include AC manual contactors and starters, magnetic solenoids, magnetic motor starters, installation of control devices and maintenance procedures.

Learning Outcomes:
At the end of the course, the student will:

A. identify and explain terms (voltage, current, power, energy, frequency) used to analyze and evaluate electric motor control circuits and related logic and safety factors;
B. explain logic and functionality of AC and DC contactors and electromagnetic motor starters and related timing and control devices; and
C. prepare and explain schematic diagrams and functional block diagrams for implementation of required motor control system functions and related logic.

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)

1. identify electrical tools, instruments and know how to use them correctly; (A, B, C)
2. identify and use industrial electrical symbols and line diagrams; (A)
3. name the six basic logic functions within electrical circuits; (A)
4. identify and use manual contractor and motor starters; (A, B, C)
5. explain the theory of magnetism and magnetic solenoids; (A)
6. explain the operation of AC/DC contractor and magnetic motor starters; (A)
7. identify different types of time delay devices; (A)
8. describe the application and installation of control devices; (A)
9. draw reversing circuits applied to single-phase, three-phase, and DC motors; (A,, B, C)
10. explain the operation of power distribution systems, transformers, and switchboards; (A, B, C)
11. identify different solid state control devices; (A) and
12. identify and use different types of electromechanical and solid state relays. (A)

Course Requirements: Complete all in-class laboratory exercises, homework assignments, lecture and lab exercise tests and final exam.

Course Grading Scale:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Attendance Policy: The college attendance policy is available at http://www.bpcc.edu/catalog/current/academicpolicies.html

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

Title VI, Section 504, and ADA Coordinator
Sarah Culpepper, Coordinator
Disability Services, D-110
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6539
Email: sculpepper@bpcc.edu
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator
Teri Bashara, Director of Human Resources
Human Resources Office, A-105
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6056
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.