COMMON COURSE OUTLINE: Course discipline/number/title: BU 1651: Electrical Lab II

A. CATALOG DESCRIPTION
   1. Credits: 4
   2. Hours/Week: 8
   3. Prerequisites (if any): Admission into BUM Program, Completion of all BUM I courses with a grade of “C” or above; MATH 1015 or placement test into MATH 0098 and MATH 1016
   4. Co-requisites (if any): None
   5. MnTC Goals (if any): NA

This course provides the student with advanced motor control applications including: jogging, counting, braking, plugging, reduced voltage starting, and latching relays. The theory, operation, installation, and practical application of programmable controllers are covered. Solid-state motor controls are also covered. Finally, the application and characteristics of single-phase and three-phase transformers are covered.

B. DATE LAST REVISED (use current date): January, 2014

C. OUTLINE OF MAJOR CONTENT AREAS:
   1. Programmable controllers
   2. Electric motors
   3. Electrical components and circuits

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Connect auxiliary contact interlock with reversing controls.
   2. Connect mechanical interlock with reversing controls.
   3. Describe manual starters.
   4. Describe magnetic starters.
   5. Connect magnetic starters.
   6. Connect automatic sequence control.
   7. Describe jogging circuits.
   8. Connect jogging circuits.
   10. Connect plugging circuits.
   11. Connect timer circuits.
   12. Connect two motors for sequence operation.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
   Grades will be based on a percentage of the total possible points from all graded activities.

G. RCTC CORE OUTCOME(S) ADDRESSED:
   - Communication
   - Critical Thinking
   - Global Awareness/Diversity
   - Civic Responsibility
   - Personal/Professional Accountability
   - Aesthetic Response

H. SPECIAL INFORMATION (if any):
   Attendance is critical.