COMMON COURSE OUTLINE: Course discipline/number/title: BU 1641: Electrical Theory II

A. CATALOG DESCRIPTION
   1. Credits: 3
   2. Hours/Week: 3
   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 will allow students to continue to examine the basic design and installation of electric motor controls. The theory and applications of single-phase and three-phase transformers are also covered. The theory of programmable controllers and advanced motor controls is also presented.

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

C. OUTLINE OF MAJOR CONTENT AREAS:
   1. Programmable controllers
   2. Motors and motor controls

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Describe jogging control.
   2. Draw jogging control schematic design.
   3. Describe line diagrams.
   4. Describe wiring diagrams.
   5. Describe relays.
   6. Describe contractors.
   7. Describe magnetic contractors.
   8. Describe PC power supply.
   9. Describe PC input module.
   10. Describe PC processor.
   11. Describe PC output module.
   12. Describe PC memory.
   13. Describe PC program language.
   14. Convert relay diagram to PC language.
   15. Describe internal counters.
   16. Convert a schematic diagram to a wiring diagram.

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 crucial in this class.