COMMON COURSE OUTLINE: Course discipline/number/title: BU 1621: Electrical Theory I

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 covers wiring layout for general lighting circuit sand switches in residential applications. The basic theory of inductors, capacitors, resistors, SCR’s, diodes, transistors, and AC electric motors is also presented. The student will also examine the basic design and installation of electric motor controls.

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

C. OUTLINE OF MAJOR CONTENT AREAS:
   1. Residential wiring.
   2. Electrical components.
   3. Motors and motor controls.

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Draw single poles switch applications.
   2. Draw three-pole switch applications.
   3. Draw four-pole switch applications.
   4. Identify electric symbols.
   5. Describe inductances.
   6. Describe capacitance.
   7. Describe resistance.
   8. Describe a SCR.
   9. Describe diodes.
   10. Draw pilot device symbols.
   11. Draw a two-wire control schematic diagram.
   12. Develop two-control wiring diagram.
   14. Develop three-wire control wiring diagram.
   15. Draw three-wire control schematic 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. S 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.