



6. **Student Learning Outcomes** (Identify 1-6 expected learner outcomes using active verbs.)

Upon successful completion of the course, the student will be able to:

Recognize electrical safety and awareness of electrical hazards  
Recognize the major attributes of Industrial Blueprints in relations to Industrial Specifications  
Recognize the fundamental function of Semiconductors  
Recognize the fundamental function of Transistors

7. **Course Objectives** (Identify specific teaching objectives detailing course content and activities. *For some courses, the course objectives will be the same as the student learning outcomes. If this is the case, please simply indicate this in this section).*

Apply the knowledge and skills necessary to perform the job assignments expected of a third year inside wireman apprentice.

8. **Course Content** (Brief but complete topical outline of the course that includes major subject areas [1-2 pages]. Should reflect all course objectives listed above. In addition, you may attach a sample course syllabus with a timeline.)

See Attached Topical Outline

9. **Representative Instructional Methods** (Describe instructor-initiated teaching strategies that will assist students in meeting course objectives. Include examples of out-of-class assignments, required reading and writing assignments, and methods for teaching critical thinking skills.) **If hours by arrangement are required by this course, indicate the additional instructional activity which will be provided during this time.**

Reading Assignments  
Workbook Lab Assignments

10. **Representative Methods of Evaluation** (Describe measurement of student progress toward course objectives. Courses with required writing component and/or problem-solving emphasis must reflect critical thinking component. If skills class, then applied skills.)

Completion of lab homework  
Examination upon completion of each unit  
Demonstrated competency by successful completion of lab assignments

11. **Representative Text Materials** (With few exceptions, texts need to be current. Include publication dates.)

See Attached List

Prepared by:

\_\_\_\_\_  
(Signature)

Email address:

schneider@smccd.edu

Submission Date:

\_\_\_\_\_

- I. Understanding and Application of Electrical Safety-Related Work Practices
  - A. Applied OSHA Requirements in relationship to NFPA 70E
  - B. Understand and Achieving an Electrically Safe Work Condition
  - C. Understand and Determine Correct Application of Personal and Other Protective Clothing
  
- II. Review and Introduction of Blueprints and Industrial Blueprints
  - A. Review Blueprint Applications and Symbols
  - B. Understand and Apply Industrial Specifications to Blueprint Skills
  - C. Review and Apply Industrial Blueprints
  
- III. Understand and Apply Semiconductor Use in Relationship to Construction Electrical Industry
  - A. Understand and Analysis Semiconductor Characteristics
  - B. Understand the Basic Functions of Diodes, Zener Diodes, LED, Rectifiers
  - C. Understand the Basic Power Supplies
  
- IV. Understand and Apply Transistors in Relationship to Construction Electrical Industry
  - A. Understand the Basic Transistor Characteristics
  - B. Understand the Basic Amplifiers Functions
  - C. Understand Amplifier Design Using the Family of Curves
  
- V. Understand Electronic Applications in the Construction Electrical Industry
  - A. Understand and Apply Photoconductive Cells
  - B. Understand and Analysis Electronic Control Devices and Circuits
  - C. Understand and Test SRS Circuits, DIAC, and TRIAC With DMM

### **Representative Text Materials – ELEL 735**

National Fire Protection Associates, Inc. National Electric Code 2005. Quincy, Massachusetts: NFPA, 2004.

National Joint Apprenticeship and Training Committee. Blueprints Workbook. Upper Marlboro, Maryland: NJATC Press, 2005.

National Joint Apprenticeship and Training Committee. Codes and Practices Workbook . Upper Marlboro, Maryland: NJATC Press, 2005.

National Joint Apprenticeship and Training Committee. Electrical Safety-Related Work Practices Workbook. Upper Marlboro, Maryland: NJATC Press, 2005.

National Joint Apprenticeship and Training Committee. Industrial Blueprints Set. Upper Marlboro, Maryland: NJATC Press, 1993.

National Joint Apprenticeship and Training Committee. NJATC Orientation Workbook I . Upper Marlboro, Maryland: NJATC Press, 2005.

National Joint Apprenticeship and Training Committee. Semiconductor Workbook. Upper Marlboro, Maryland: NJATC Press, 2005.

National Joint Apprenticeship and Training Committee. Textbook on Semiconductors. Clifton Park, New York: Thomson/Delmar Learning, 2004.

Wright, Chuck. Blueprint Reading for Electricians. Clifton Park, New York: Delmar Learning, 2005.

