

ELECTRONICS/1 (90 Hours)

Course No.: 72-55-50

COMPETENCY CHECKLIST

Student Name _____

Teacher Name _____ School Site _____

Start Date _____ Completion Date _____ Certificate Date _____

Teacher Signature _____ Student Signature _____

(Signatures verify completion of course competencies)

A. ORIENTATION AND SAFETY (3 hrs)

- _____ 1. Scope and purpose of class
- _____ 2. Course as part of Linked Learning Initiative
- _____ 3. Class policies and procedures
- _____ 4. Occupations available to industry technicians
- _____ 5. Opportunities: non-traditional employment
- _____ 6. Impact of EPA on Energy/Utilities Industry
- _____ 7. Standards for removal of hazardous waste
- _____ 8. OSHA pertaining to electronic technicians
- _____ 9. MSDS as it applies to electronics industry
- _____ 10. Class/workplace emergency procedures
- _____ 11. Employer/employee and site safety
- _____ 12. Safety test

B. TRADE MATHEMATICS (8 hrs)

- _____ 1. Math applications in electronics work
- _____ 2. Problem solving using whole numbers
- _____ 3. Arithmetic operations using fractions
- _____ 4. Arithmetic operations using decimals
- _____ 5. Techniques: Changing fractions to decimals
- _____ 6. Techniques: Changing decimals to fractions
- _____ 7. English system: Measuring length
- _____ 8. English system: Measuring weight
- _____ 9. English system: Measuring volume/capacity
- _____ 10. Solving problems with measure systems
- _____ 11. Measuring using tools common to the trade
- _____ 12. Metric units in powers of ten
- _____ 13. Convert English numbers to metric system
- _____ 14. Convert metric system to English numbers
- _____ 15. Square roots of English numbers
- _____ 16. Problem solving for geometric problems
- _____ 17. Problem solving for algebraic problems
- _____ 18. Problem solving using percentages
- _____ 19. Reading and interpreting graphs

- _____ 20. Conversion of decimal to binary numbers
- _____ 21. Conversion of binary to decimal numbers

C. RESOURCE MANAGEMENT (1 hr)

- _____ 1. Basic principles of resource management
- _____ 2. Resource management in electronics trade
- _____ 3. Effective use of time/material/personnel
- _____ 4. Effective resource management
- _____ 5. Benefits of effective resource management

D. ELECTRONIC TOOLS AND EQUIPMENT (5 hrs)

- _____ 1. Tools/equipment use, maintenance & storage
- _____ 2. Electronic testing equipment
- _____ 3. Ohmmeter's function and range of use
- _____ 4. Measurements using Ohmmeter
- _____ 5. Voltmeter: function, range, method of use
- _____ 6. Check and measure unknown voltage
- _____ 7. Proper data recording techniques

E. TERMINALS (10 hrs)

- _____ 1. Terminating points use in assembly
- _____ 2. Types and sizes of terminals
- _____ 3. Demonstrate termination techniques

F. CONNECTIONS (10 hrs)

- _____ 1. Types of electronic connectors
- _____ 2. Demonstrate connectors for quality

G. DIRECT CURRENT (DC) CIRCUITS (25 hrs)

- _____ 1. Principles of DC circuits
- _____ 2. Features/function of various circuit parts
- _____ 3. Design/demonstrate circuit construction
- _____ 4. Electromagnetic properties
- _____ 5. Construction of simple electromagnet

H. BLUEPRINTS AND SCHEMATICS (5 hrs)

- _____ 1. Interpreting prints and schematics
- _____ 2. Symbols and abbreviations for blueprints
- _____ 3. Evaluating pictorial drawings
- _____ 4. Evaluate drawings, blueprints, schematics

I. SOLDERING (20 hrs)

- _____ 1. Basic soldering/de-soldering techniques
- _____ 2. Proper use/storage of soldering tools
- _____ 3. Basic purpose of soldering
- _____ 4. Types and characteristics of soldering
- _____ 5. Demonstrate proper soldering techniques

J. EMPLOYABILITY SKILLS (3 hrs)

- _____ 1. Employer requirements for electronic field
- _____ 2. Identification of potential employers
- _____ 3. Social networking in the job search
- _____ 4. Sample resume and cover letter
- _____ 5. Importance of accuracy on application
- _____ 6. Common mistakes made on applications
- _____ 7. Sample job applications
- _____ 8. Demonstrate job enthusiasm
- _____ 9. Appropriate job appearance
- _____ 10. Need for upgrading of job skills
- _____ 11. Customer service in building a business
- _____ 12. Interview techniques
- _____ 13. Resources useful for successful interview
- _____ 14. Sample follow-up letters
- _____ 15. Job interview follow-up procedures