

# ELECTRONICS/2 (90 Hours)

Course No.: 72-55-60

## 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. INTRODUCTION AND SAFETY (2 hrs)

- \_\_\_\_\_ 1. Scope and purpose of the course
- \_\_\_\_\_ 2. Course content as part of Linked Learning
- \_\_\_\_\_ 3. Classroom policies and procedures
- \_\_\_\_\_ 4. Occupations in energy & utilities industry
- \_\_\_\_\_ 5. Gender equity of non-traditional populations
- \_\_\_\_\_ 6. EPA legislation impact on industry sector
- \_\_\_\_\_ 7. EPA/proper removal of hazardous materials
- \_\_\_\_\_ 8. Cal/OSHA laws governing mobile electronics
- \_\_\_\_\_ 9. MSDS applies to electronics technicians
- \_\_\_\_\_ 10. Class & workplace first aid procedures
- \_\_\_\_\_ 11. Responsibilities to insure a safe workplace
- \_\_\_\_\_ 12. Pass the safety test with 100% accuracy

### B. TRADE MATHEMATICS REVIEW (5 hrs)

- \_\_\_\_\_ 1. Applications of math in electronics work
- \_\_\_\_\_ 2. Problem-solving involving whole numbers
- \_\_\_\_\_ 3. Problem-solving of fractions problems
- \_\_\_\_\_ 4. Problem-solving of decimal problems
- \_\_\_\_\_ 5. Changing fractions to decimals
- \_\_\_\_\_ 6. Changing decimals to fractions
- \_\_\_\_\_ 7. English/metric systems of measuring length
- \_\_\_\_\_ 8. English/metric systems of measuring weight
- \_\_\_\_\_ 9. English/metric systems of measuring volume
- \_\_\_\_\_ 10. English & metric measuring problems
- \_\_\_\_\_ 11. English/metric: measure using common tools
- \_\_\_\_\_ 12. Metric: ascending/descending powers of ten
- \_\_\_\_\_ 13. Convert English numbering system to metric
- \_\_\_\_\_ 14. Convert metric system to English numbering
- \_\_\_\_\_ 15. Square roots of regular numbers
- \_\_\_\_\_ 16. Problem-solving of geometric problems
- \_\_\_\_\_ 17. Problem-solving of algebraic problems
- \_\_\_\_\_ 18. Problem-solving of percentages problems
- \_\_\_\_\_ 19. Interpreting graphs
- \_\_\_\_\_ 20. Convert decimal numbers to binary numbers
- \_\_\_\_\_ 21. Convert binary numbers to decimal numbers

### C. ADVANCED SOLDERING (10 hrs)

- \_\_\_\_\_ 1. Demo techniques of advanced soldering

### D. ALTERNATING CURRENT CIRCUITS (15 hrs)

- \_\_\_\_\_ 1. Define listed terms related to topic
- \_\_\_\_\_ 2. Discuss principles of AC circuits
- \_\_\_\_\_ 3. Demo listed principles of AC circuits

### E. CAPACITANCE (15 hrs)

- \_\_\_\_\_ 1. Capacitance/capacitor/capacitive circuit
- \_\_\_\_\_ 2. Discuss listed items related to capacitance
- \_\_\_\_\_ 3. Demo capacitance in DC & AC circuits

### F. INDUCTANCE (15 hrs)

- \_\_\_\_\_ 1. Define listed terms related to topic
- \_\_\_\_\_ 2. Discuss listed factor related to inductance
- \_\_\_\_\_ 3. Demo inductance in DC & AC circuits

### G. ADVANCED ALTERNATING CURRENT ELECTRONICS (10 hrs)

- \_\_\_\_\_ 1. Define terms/principles related to topic
- \_\_\_\_\_ 2. Features/functions of RC circuits
- \_\_\_\_\_ 3. Ohm's law & other principles of AC
- \_\_\_\_\_ 4. Demo the listed illustration/constructions
- \_\_\_\_\_ 5. Proper use of electronic testing equipment

### H. SOLID STATE ELECTRONICS (10 hrs)

- \_\_\_\_\_ 1. Features/functions of components
- \_\_\_\_\_ 2. Demo listed constructions

### I. SEMICONDUCTORS (5 hrs)

- \_\_\_\_\_ 1. Define listed terms related to topic
- \_\_\_\_\_ 2. Labeling techniques/calculating voltage drops
- \_\_\_\_\_ 3. Forward/reverse bias voltage affects

**J. EMPLOYABILITY SKILLS REVIEW (3 hrs)**

- \_\_\_\_\_ 1. Employer requirements/expectations
- \_\_\_\_\_ 2. Update list of potential employers
- \_\_\_\_\_ 3. Electronic social networking in job search
- \_\_\_\_\_ 4. Update sample resumes
- \_\_\_\_\_ 5. Importance of legible/complete application
- \_\_\_\_\_ 6. Common mistakes made on job applications
- \_\_\_\_\_ 7. Complete sample job application forms
- \_\_\_\_\_ 8. Enthusiasm on a job
- \_\_\_\_\_ 9. Appropriate appearance on a job
- \_\_\_\_\_ 10. Continuous upgrading job skills
- \_\_\_\_\_ 11. Customer service to build business
- \_\_\_\_\_ 12. Interviewing techniques
- \_\_\_\_\_ 13. Resources needed for a successful interview
- \_\_\_\_\_ 14. Appropriate follow-up procedures