

POWERLINE SYSTEMS/1 (90 Hours)

Course No.: 72-75-80

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** (5 hrs)

- _____ 1. Scope and purpose of course
- _____ 2. Course content as part of Linked Learning
- _____ 3. Classroom policies and procedures
- _____ 4. First aid/emergency procedures
- _____ 5. Occupations open to powerline mechanics
- _____ 6. Gender equity/non-trad employment
- _____ 7. Cal/OSHA laws & powerline mechanics
- _____ 8. Impact of EPA legislation on industry
- _____ 9. Procedures to remove hazardous waste
- _____ 10. NEC and its role in safe job/workplace
- _____ 11. MSDS as it applies to the powerline systems
- _____ 12. LEED's role in green/renewable technology
- _____ 13. LA City Safety Codes & powerline systems
- _____ 14. CA Title 24 as related to utility industry
- _____ 15. Pass safety test with 100% accuracy

B. **RESOURCE MANAGEMENT** (1 hr)

- _____ 1. Terms related to resource management
- _____ 2. Managing time, materials, personnel
- _____ 3. Examples of effective management
- _____ 4. Benefits of effective resource management
- _____ 5. Economic benefits/liabilities to environment

C. **TRADE MATHEMATICS** (20 hrs)

- _____ 1. Practical math applications to industry
- _____ 2. Problem-solving of whole numbers
- _____ 3. Problem-solving of fraction problems
- _____ 4. Problem-solving of decimal problems
- _____ 5. Changing fractions to decimals
- _____ 6. Changing decimals to fractions
- _____ 7. English/metric systems for measuring length
- _____ 8. English/metric systems for measuring weight

- _____ 9. English/metric measures for volume/capacity
- _____ 10. Problem-solving for measuring problems
- _____ 11. Measure using tools common to the trade
- _____ 12. Metric units of 10 - ascending/descending
- _____ 13. Convert English numbering to metric system
- _____ 14. Convert metric system to English numbering
- _____ 15. Calculate square roots of numbers
- _____ 16. Problem-solving for geometric problems
- _____ 17. Problem-solving for algebraic problems
- _____ 18. Problem-solving using percentages
- _____ 19. Techniques for reading/interpreting graphs
- _____ 20. Demonstrate techniques for using calculator
- _____ 21. Pass utility entry level exam

D. **DIRECT CURRENT (DC) THEORY I** (15 hrs)

- _____ 1. Define terms related to topic of DC theory
- _____ 2. Features/functions of DC/trade components
- _____ 3. Properties of electricity and magnetism
- _____ 4. Apply/evaluate DC theory as used in trade

E. **ALTERNATING CURRENT (AC) THEORY I** (15 hrs)

- _____ 1. Define terms related to topic of AC theory
- _____ 2. Discuss application of AC as it relates to trade
- _____ 3. Features & functions of transformers
- _____ 4. Demonstrate understanding of topic

F. **CAPACITANCE I** (15 hrs)

- _____ 1. Define terms related to topic of capacitance
- _____ 2. Discuss application of capacitance in AC/DC
- _____ 3. Demonstrate understanding of topic

G. **INDUCTANCE I** (15 hrs)

- _____ 1. Define terms related to topic of inductance

- _____ 2. Discuss application/effects of inductance
- _____ 3. Demonstrate understanding of topic

H. EMPLOYABILITY SKILLS (4 hrs)

- _____ 1. Employer requirements in employee
- _____ 2. Identify potential employers in job search
- _____ 3. Electronic social networking in the job search
- _____ 4. Design sample resumes and cover letters
- _____ 5. Accurate/legible/complete job application
- _____ 6. Complete sample job application
- _____ 7. Importance of enthusiasm for job
- _____ 8. Importance of appropriate job appearance
- _____ 9. Continuous upgrading of job skills
- _____ 10. Customer service to establish relationships
- _____ 11. Appropriate interview techniques
- _____ 12. Resources to use for successful interview
- _____ 13. Design sample follow-up letters
- _____ 14. Appropriate follow-up procedures