

Electrician Trainee (ELTR)

Contact Occupational & Noncredit Programs for further information.
(760) 744-1150, ext. 2284
Office: AA-136

COURSE OFFERINGS

- ELTR 101 Introduction to the Electrical Trade and Industry and Construction Safety (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Note: May be taken 4 times
Examines safety issues surrounding construction jobsites and installation of electrical systems. Includes OSHA 10 certification, identification of job-site hazards, safe work practices and personal protective equipment for various construction site hazards. Care for breathing and cardiac emergencies along with basic first aid and AED training for both adults and children is covered. Substance abuse will be addressed. Basic math operations will be reviewed and reinforced.
- ELTR 102 Introduction to Electrical Theory, Basic Algebra Concepts, and the National Electric Code (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Note: May be taken 4 times
Provides an introduction to algebraic and trigonometric concepts and application of their principles to solve basic electrical equations and layout conduit bends. Teaches the student to apply basic electrical theory to predict circuit behavior. Basic conduit bending techniques will be developed. The National Electric Code will be introduced.
- ELTR 103 Advanced DC Circuit Concepts, Introduction to 3Ø Circuits, and National Electric Code Applications (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Recommended preparation: ELTR 102
Note: May be taken 4 times
Study of circuit analysis techniques, series, parallel, and combination DC circuits, test instruments, National Electric Code (NEC), and elementary 3Ø circuits.
- ELTR 104 AC Circuit Concepts, Applied Electronics, and National Electric Code Applications (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Recommended preparation: ELTR 103
Note: May be taken 4 times
Study of AC theory, exploration of inductance and capacitance and the effect of their reactance on AC circuits and the application of electronic concepts and components.
- ELTR 105 Digital Logic Circuits, Conductor Characteristics and Applications, and National Electric Code (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Recommended preparation: ELTR 104
Note: May be taken 4 times
Study of digital logic concepts and their real-world application. Identification, selection, and installation of electrical conductors.
- ELTR 106 Overcurrent Protection, Lighting Systems, Basic Blueprints and Specifications, and National Electric Code (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Recommended preparation: ELTR 105
Note: May be taken 4 times
Study of blueprints and specifications. Application of the National Electric Code to cover current protection, panelboards, and lighting systems.
- ELTR 107 Grounding Systems, Advanced Blueprints and Specifications, Motor Design and Installation, and National Electric Code (3.5)**
3 hours lecture - 1 1/2 hours laboratory
Recommended preparation: ELTR 106
Note: May be taken 4 times

Advanced concepts for blueprints and specifications. Study of motor design and application and National Electric Code concepts.

ELTR 108 Motor Control Principles, Generators and Power Supplies, and National Electric Code (3.5)

3 hours lecture - 1 1/2 hours laboratory

Recommended preparation: ELTR 107

Note: May be taken 4 times

Addresses techniques for controlling AC and DC motors. Students examine conventional and breaking technologies for power generation.

ELTR 109 Transformer Theory, Leadership and Management, and Test Equipment (3.5)

3 hours lecture - 1 1/2 hours laboratory

Recommended preparation: ELTR 108

Note: May be taken 4 times

Explores the theory and field application of transformers. Electrical test equipment operation and use will be addressed. Includes management and leadership principles for supervisors. Special equipment for security systems is discussed.

ELTR 110 Specialty Systems (3.5)

3 hours lecture - 1 1/2 hours laboratory

Recommended preparation: ELTR 109

Note: May be taken 4 times

Examines specialty electrical systems commonly found in building construction. Includes fire alarm systems, closed-circuit television (CCTV) systems, telephone systems, cable television (CATV & MATV) systems, local area networks (LANs), fiber optic data systems, heating and air conditioning control systems, and lightning protection systems.

Electro-Mechanical Equipment Technician (EMET)

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Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).
• Mail Processing Equipment Mechanic

Certificates of Proficiency -

Certificate of Proficiency requirements are listed in Section 6 (green pages).
• Maintenance Mechanic

PROGRAMS OF STUDY

Mail Processing Equipment Mechanic

This certificate will provide the student with the necessary knowledge, skills and abilities to perform at the level of Mail Processing Equipment Mechanic level 8. Students will learn to maintain the electrical and mechanical components for various mail processing equipment.

CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
CI 105	Electrical Codes I	3
CI 106	Electrical Codes II	3
DMT 81	Basic Hydraulics	4
EMET 50	Basic Mechanics for Servicing Electro-Mechanical Equip.	3
EMET 51	Mail Processing Equipment Mechanic Exam Preparation	3
IT/WELD 108	Technical Mathematics	3
TOTAL UNITS		19