

# ELECTRICAL TRADES APPRENTICESHIP (ELTA)

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## **ELTA 101, NATIONAL ELECTRICAL CODE I: COMMERCIAL AND INDUSTRIAL 1 (1)**

This course provides an introduction to the National Electrical Code with an emphasis on commercial and industrial applications. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program

**Typically Offered:** Offer as required

## **ELTA 102, NATIONAL ELECTRICAL CODE II: COMMERCIAL AND INDUSTRIAL 3 (3)**

This course is the second part of a three part series covering the National Electrical Code with an emphasis on commercial and industrial applications. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: ELTA 101

**Typically Offered:** Offer as required

## **ELTA 103, NATIONAL ELECTRICAL CODE III: COMMERCIAL AND INDUSTRIAL 4 (4)**

This course is the third part of a three part series covering the National Electrical Code with an emphasis on commercial and industrial applications. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: ELTA 102

**Typically Offered:** Offer as required

## **ELTA 111, DC THEORY: COMMERCIAL AND INDUSTRIAL 3 (5)**

This course provides a detailed study of DC electrical circuits and related bilateral components. The topics included are electric current; voltage; resistance; series, parallel, and series-parallel circuits; as well as circuit theorems, magnetism, generators and motors. The course contains a laboratory section that emphasizes the practical aspects of circuit construction and electrical measurement devices. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program. Laboratory required (A special fee will be assessed.)

**General Education:** IN1, IN5

**Course Entry Requirement(s):** Prerequisite: Student must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program.

**Typically Offered:** Offer as required

## **ELTA 112, AC THEORY: COMMERCIAL AND INDUSTRIAL 5 (7)**

This course provides a detailed study of AC electrical circuits and related bilateral components. The concepts of RL, RC, LC, and RLC reactive circuits; resonance, passive filters, three phase power systems, and power factor analysis are also covered. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1, IN5

**Course Entry Requirement(s):** Prerequisite: ELTA 111

**Typically Offered:** Offer as required

## **ELTA 133, SEMICONDUCTOR THEORY: COMMERCIAL AND INDUSTRIAL 4 (6)**

This course is an introduction to the theory, operation, and practical applications of solid state devices. Topics include diodes, transistors, rectification circuits, power supplies, amplifier configurations, oscillators, SCR circuits, optoelectronics, and fiber optics. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program. Laboratory required (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: ELTA 112

**Typically Offered:** Offer as required

## **ELTA 204, MOTORS AND MOTOR CONTROL: COMMERCIAL AND INDUSTRIAL 5 (5)**

This course is an introduction to AC and DC motors and motor control devices. Topics include motor protection, single and three-phase motors, AC alternators, motor starters, contactors and relays, control diagrams and drawings, timing devices, AC and DC motor speed controls, and troubleshooting. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program.

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: ELTA 133

**Typically Offered:** Offer as required

## **ELTA 214, DIGITAL ELECTRONICS: COMMERCIAL AND INDUSTRIAL 2 (4)**

The course serves as an introduction to basic digital electronic concepts. Topics included are Boolean Algebra, Basic logic gates, buffer and inverter amplifiers, and debouncing circuits. Students must be enrolled in the IBEW/NECA Electrical Trades Apprenticeship program. Laboratory required. (A special fee will be assessed.)

**Course Entry Requirement(s):** Prerequisite: ELTA 204

**Typically Offered:** Offer as required

## **ELTA 287, WORK-BASED LEARNING I - ELTA 1-3 (1)**

This course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.

**General Education:** IN1, IN2, IN3, IN4

**Course Entry Requirement(s):** A student must be pursuing a degree seeking program at LCCC; have completed 12 semester hours with a minimum of 6 semester hours in the discipline of placement; have a min GPA of 2.5 in the discipline and a 2.0 overall GPA; and have division approval.

**Typically Offered:** Offer as required