



**Electronics Engineering Technology
 Credential: Certificate in Electronics
 Technology C40200**

This curriculum prepares individuals to work as skilled assemblers, inspectors, or testers in consumer or industrial electronics environments. Work tasks include mounting, soldering, and wiring of electronics components, assembling sub-units, and final assembly and inspection of complete systems. Course work includes basic electricity, mathematics, solid-state electronics, and basic assembly skills. Graduates should qualify for employment as an electronics assembler, electronics tester, or electronics inspector.

Program Length: 3 semesters

Career Pathway Options: Associate in Applied Science Degree in Electronics Engineering Technology, Certificate in Electronics Technology

Program Sites:

Lee Campus - Day Program

Harnett Campus – Day Program

Online Program

Course Requirements for Electronics Technology Certificate

A. General Education Courses (3 SHC)		C-L-SHC
MAT 121	Algebra/Trigonometry I	2-2-3
B. Required Major Core Courses (13 SHC)		
ELC 131	DC/AC Circuit Analysis	4-3-5
ELN 131	Electronic Devices	3-3-4
ELN 132	Linear IC Applications	3-3-4
C. Other Major Hours Required for Graduation (2 SHC)		
EGR 131	Introduction To Electronics Technology	1-2-2

Total Semester Hours Credit Required for Graduation: 18

Semester Curriculum for Electronics Technology Certificate

1st Semester (Fall)		C-L-SHC
EGR 131	Introduction to Electronics Technology	1-2-2
ELC 131	DC/AC Circuit Analysis	4-3-5
MAT 121	Algebra/Trigonometry I	<u>2-2-3</u> 7-7-10
2nd Semester (Spring)		
ELN 131	Electronic Devices	3-3-4

3rd Semester (Summer)		
ELN 132	Linear IC Applications	3-3-4

Total Semester Hours Credit Required for Graduation: 18

COURSE DESCRIPTIONS

EGR 131 Introduction To Electronics Tech 1-2-2
 This course introduces the basic skills required for electrical/electronics technicians. Topics include soldering/desoldering, safety practices, test equipment, scientific calculators, AWG wire table, the resistor color code, electronic devices, problem solving, and use of hand tools. Upon completion, students should be able to solder/desolder, operate test equipment, apply problem-solving techniques, and use a scientific calculator.

ELC 131 DC/AC Circuit Analysis 4-3-5
Corequisites: MAT 121
 This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation software, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

ELN 131 Electronic Devices 3-3-4
Corequisites: ELC 112, ELC 131 or ELC 140
 This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thermistors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

ELN 132 Linear IC Applications 3-3-4
Prerequisites: ELN 131 or BMT 113
 This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

MAT 121 Algebra/Trigonometry I 2-2-3
 Prerequisite: MAT 070 or MAT 080 or appropriate placement test scores
 This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equations; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results.