CENTRAL CAROLINA COMMUNITY COLLEGE

Program Planning Guide
Electronics Engineering Technology, Certificate (C40200)

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

Suggested Course Schedule:		**HOURS Class**	**Lab**	**Credit**	**Grade**	**Semester**	**Notes**
1st Semester (Fall)							
EGR 131	Introduction to Electronics Tech.	1	2	2			
ELC 131	Circuit Analysis I	3	3	4			
ELC 131A	Circuit Analysis I Lab	0	3	1			
MAT 121	Algebra/Trigonometry I	2	2	3			
		6	10	10			
2nd Semester (Spring)							
ELN 131	Analog Electronics I	3	3	4			
3rd Semester (Summer)							
ELN 132	Analog Electronics II	3	3	4			

Total Semester Hours Credit: 18

Course Descriptions:

EGR 131 Introduction To Electronics Technology 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 Circuit Analysis I 4-3-5
Local Corequisite: MAT 121 or MAT 161
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, 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.

ELC-131A Circuit Analysis I Lab 0-3-1
Local Corequisite: ELC 131 Circuit Analysis
This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment.

ELN 131 Analog Electronics I 3-3-4
Local Corequisite: ELC 112, ELC 131, or ELC 140
This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

ELN 132 Analog Electronics II 3-3-4
Local Prerequisite: ELN 131 or BMT 113 or ELC 140
This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, waveform generators, active filters, IC voltage regulators, and other related topics. 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: Take one set: DMA-010, DMA-020, DMA-030, DMA-040, DMA-050; MAT 060 and MAT 070, MAT 060 and MAT 080, MAT 060 and MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175, 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.