

CERTIFICATE OF ACHIEVEMENT

Upon successful completion of this certificate program, students will be prepared for an entry-level position providing support in industry. Instruction includes both analog and digital design and testing of electronic circuits, devices and systems, telecommunications and data-communications.

STUDENT LEARNING OUTCOMES - Graduates of this program will have the opportunity to:

- Develop a working knowledge of safety procedures, use of common hand tools, and proper fabrication techniques associated with the electronics environments, identify passive components, construct, and test various DC and AC circuits.
- Construct, analyze and test various types of digital circuits using Boolean expressions, Karnaugh maps and general purpose test equipment.
- Develop a working knowledge of microcomputers and microprocessors to include writing an assembly language program to output a sinusoidal wave, square wave, and triangular wave to an output port.
- Identify active analog components, design, construct, and test various DC and AC circuits using operational amplifiers construct a Bode Plot of an amplifier's frequency and phase response.
- Show positive work ethics and interpersonal skills in a group environment.

GENERAL EDUCATION REQUIREMENTS (6 Credits):

	CR	SEMESTER
COMMUNICATIONS: COM 115, ENG 100, 101, 107, 113	3-5	_____
MATHEMATICS: MATH 111B	3	_____

SPECIAL PROGRAM REQUIREMENTS (27 Credits):

	CR	SEMESTER
ET 104B Fabrication and Soldering Techniques	2	_____
ET 106B Test Equipment Operation	3	_____
ET 131B DC for Electronics	4	_____
ET 132B AC for Electronics	4	_____
ET 212B Digital Logic I	4	_____
ET 220B Solid State Devices and Circuits I	4	_____
ET 228B Data Acquisition	3	_____
ET 282B Microprocessors I	3	_____

Computation included in MATH 111B
Human Relations included in ET 131B

NOTE: Courses with a B suffix (example - XYZ 123B) may be non-transferable for a NSHE baccalaureate degree.

ETELEC-CT

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Total Credits

Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.

**Guided Pathway
Certificate of Achievement
Engineering Technology – Electronics Emphasis
Total Credits – 33 credits**

First Semester	Requirement	Credit Hours	Term
Test Equipment Operation	ET 106B	3	
DC for Electronics	ET 131B	4	
Fabrication and Soldering Techniques	ET 104B	2	
Mathematics	MATH 111B, 127 or higher	3	
	TOTAL	12	
Second Semester	Requirement	Credit Hours	Term
AC for Electronics	ET 132B	4	
Digital Logic I	ET 212B	4	
Communications	COM 115, ENG 100, 101,107, 113	3	
	TOTAL	11	
Third Semester	Requirement	Credit Hours	Term
Solid State Devices and Circuits I	ET 220B	4	
Data Acquisition	ET 228B	3	
Microprocessors I	ET 282B	3	
	TOTAL	10	
	CA TOTAL	33	

More detailed information can be found on the ET Web page at <http://www.csn.edu/et>