ENGINEERING TECHNOLOGY – ELECTRONICS EMPHASIS — 64 Credits

ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)

The Associate of Applied Science Degree in Engineering Technology with Electronics emphasis prepares students to assist in providing support for engineering functions or to function as an Electronics Technician. Instruction includes analog and digital circuit design, implementation and testing, fabrication techniques, telecommunications, microprocessor programming and interface. Specialize concentration instruction includes topics critical to the concentration, such as in-depth analysis of analog and digital circuits, electrical and power supply troubleshooting, systems such as radar and microwaves, computer and network fundamentals, medical terminology, healthcare organizational dynamics, and fluid dynamics.

This two-year program provides students with the methods and procedures used in engineering organizations and by electronics technicians in a bench repair, defense contractor, and biomedical equipment repair functions. Instruction takes place in a hands-on, state-of-the-art environment.

Educational Objectives - Within a few years of graduation: Graduates from CSN's Engineering Technology with Electronics emphasis program will demonstrate the ability to apply circuit analysis and design, computer programming, analog and digital electronics, and microprocessor/microcontroller principles to install, test, troubleshoot and maintain electrical and electronic systems as bench, defense contractor, and biomedical equipment technicians. Graduates will have effective technical communication skills necessary to function on professional teams as technicians or managers. Graduates are prepared to enter the working force with professional work ethic with the commitment to lifelong learning, quality and continuous improvement through the clear ability to assume increasing levels of responsibility in both industry and community.

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

- Demonstrate knowledge of safety procedures and proper electronics fabrication techniques.
- Identify active and passive components, design, construct, and test various DC and AC circuits to include filters as well as constructing a Bode Plot of an amplifier's frequency and phase response.
- Construct, analyze and test various types of digital circuits and microprocessor/microcontroller circuits. For the microprocessor/controller based circuits demonstrate a working knowledge to include writing programs to control other devices.
- Demonstrate commitment to quality, timeliness, continuous improvement, while showing an understanding of the need for and an ability to engage in self-directed continuing professional development.
- For Bench and Defense Contractor concentrations, demonstrate a working knowledge of common modulation and transmission methods to include such as AM, FM and Pulse modulation. The Bench concentration will also focus upon more advanced analog/digital circuits. The Defense Contractor will focus upon electrical/electronics troubleshooting/repair along with systems such as radar.

GENERAL EDUCATION REQUIREMENTS (27 Credits):

	CR	SEMESTER
COMMUNICATIONS: ENG 107	3	_____
ENGLISH: ENG 100, 101, 113	3-5	_____
HUMAN RELATIONS: ALS 101, ANTH 101, 112, 201, 205 HIST 105, 106, 150, 151, 210, 247, 260, HMS 130, 135, 265, MGT 100B, 283, PHIL 135, PSC 201, PSY 101, 102, 207, 208, 261, SOC	3	_____
MATHEMATICS: MATH 111B, 127 or higher	3	_____
SCIENCE: EGG 131, 132	8	_____
FINE ARTS/HUMANITIES/ SOCIAL SCIENCES: AM, ANTH, ART, COM, ECON, ENG 223 or above, GEOG 106 or above, HIST, International Languages, Music, PHIL, PSC, PSY, SOC, THTR, WMST 113	3	_____
U.S. AND NEVADA CONSTITUTIONS: PSC 101 or HIST 101 and HIST 102 or HIST 101 and HIST 217	4-6	_____

SPECIAL PROGRAM REQUIREMENTS (37 Credits):

		CR	SEMESTER
ET 104B	Fabrication and Soldering Techniques	2	_____
ET 131B	DC for Electronics	4	_____

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		CR	SEMESTER
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	_____
FOR BENCH TECHNICIAN:			
ET 106B	Test Equipment Operation	3	_____
ET 213B	Digital Logic II	4	_____
ET 222B	Solid State Devices and Circuits II	4	_____
ET 293B	Telecommunication Transmission Methods	3	_____
FOR DEFENSE CONTRACTOR TECHNICIAN:			
ET 205B	Power Supply Theory and Repair	3	_____
ET 289B	Electrical Troubleshooting	4	_____
ET 293B	Telecommunication Transmission Methods	3	_____
Plus 3 credits from the following:			
ET 106B	Test Equipment Operation	3	_____
ET 113B	Introduction to Radar	3	_____
ET 125B	RF and Microwave Devices	3	_____
ET 195B or higher		1-4	_____
FOR BIOMEDICAL EQUIPMENT TECHNICIAN:			
CSCO 109B	PC Troubleshooting and Repair	3	_____
CSCO 120B	CCNA Internetworking Fundamentals	4	_____
HHP 123B	Introduction to the Human Body	4	_____
HIT 105B	Healthcare Delivery Systems	2	_____
HIT 118B	Language of Medicine	3	_____
MT 108B	Fluid Power	4	_____

64 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.