



Career Education

BIOMEDICAL ELECTRONIC EQUIPMENT REPAIR

Certificate of Achievement

The Norco College Biomedical Electronic Equipment Repair program is an accelerated training program designed to prepare you for entry-level employment as a biomedical equipment technician or related profession. The program covers a broad range of medical equipment used in medical centers and hospitals, including patient monitors, infusion pumps, ventilators, and more!

Career Opportunities:

Biomedical Equipment Technician
Wage Range: \$29.64 - \$34.83

Career Outlook:
7% increase projected 2024-2034*

Median Annual Earnings:
\$61,660 - \$72,450

Career Outlook:
7,300 openings projected 2024-2034*

*Labor market information obtained from Onetonline.org for California.

26/27 Course Catalog-NCE1104

For more information on Career Education programs, visit us: www.norcocollege.edu/cte.

For program, course sequencing, or scheduling, contact the Norco College Counseling Department at (951) 372-7101.

You can also visit our website: norcocollege.edu/counseling.



BIOMEDICAL ELECTRONIC EQUIPMENT REPAIR

33 unit certificate

Additional general education courses are required to earn an Associate Degree and meet other graduation requirements. Please refer to the Norco College Catalog for general education requirements or visit the Counseling Center. Visit: www.norcollege.edu/catalogs/index.html

ELC/ELE-10 Survey of Electronics

(4 units)

Basic electronic theory with laboratory. Topics include analog DC and AC devices, circuits, parameters, equations, diodes, transistors, thyristors, digital logic, integrated circuits, power supplies, amplifiers, oscillators, Ohm's Law, Watt's Law, Kirchoff's Law, and the use of electronic test and measurement equipment.

ELC/ELE-11 DC Electronics

(4 units)

Basic electrical theory including Ohm's Law, the Power Law, the Current and Voltage Laws of Kirchhoff, Direct Current (DC) theory, time constants, multimeter measurements, magnetism, electromagnetism, resistors, capacitors, coils, transient analysis and DC Motors, voltage, current, resistance, power, series, parallel and complex series/parallel circuits.

ELC/ELE-13 AC Electronics

(4 units)

Prerequisite: ELC/ELE-10 or ELC/ELE-11 or ELE-21 or ELE/MAN-23

Alternating Current (AC) theory, devices, circuits and applications--will include: resistance, reactance, impedance, capacitance, inductance, Ohm's Law, Power Law, sinusoidal waveforms, Peak, Peak-to-Peak and Root-Mean-Square (RMS) measurements, using an oscilloscope, signal generator and meter; applications of series and parallel networks of resistors, capacitors, inductors, transformers and other AC components, etc.

ELE-23 Electronic Devices and Circuits

(4 units)

Circuit applications and characteristics of discrete, and integrated circuit (IC) packages containing, diodes, bipolar junction transistors (BJTs), field-effect transistors (FETs), thyristors, op-amps (OAs), and opto-electronic devices.

ELE-25 Digital Techniques

(4 units)

Mathematics, number systems and logic circuits as they relate to modern electronic computers and digital systems. Boolean algebra, circuit simplifications and mapping are included. Basic gate and digital circuits (MSI-LSI) will be analyzed and integrated into complete systems. Digital counters, registers, encoders/decoders, converters and timing.

ELE-41 Introduction to Biomedical Equipment

(3 units)

An introduction to biomedical equipment. Topics include identifying a variety of general medical and test equipment, perform preventative maintenance inspections, and troubleshooting the most common problems associated with each medical device.

ELE-42 Troubleshooting Theory and Methodology in Biomedical Equipment

(3 units)

An introduction to the basic concepts and theories of biomedical equipment troubleshooting. Focuses on methodologies for identifying the problem, determining the probable cause, testing cause-hypothesis, creating a feasible solution, implementing, verifying the resolution, and adjusting for re-engagement and documentation.

ELE-43 Biomedical Life Support Equipment Troubleshooting and Repair

(3 units)

Comprehensive training in the troubleshooting and repair of biomedical life support equipment. Designed for biomedical engineers, technicians, and other healthcare professionals responsible for maintaining and repairing critical medical devices.

ELE-44 Network Troubleshooting and Methodology in Biomedical Equipment

(2 units)

Networking principles, troubleshooting methodologies, and their application in biomedical equipment. Students will learn how to diagnose and resolve network issues in medical environments, ensuring the reliability and safety of critical medical devices and systems.

ELE-45 Capstone Project for Biomedical Equipment

(2 units)

Prerequisite: ELE-44

Networking principles, troubleshooting methodologies, and their application in biomedical equipment. Students will learn how to diagnose and resolve network issues in medical environments, ensuring the reliability and safety of critical medical devices and systems.