

Electronics/Electrical Engineering Technology

Biomedical Electronics

www.dtcc.edu • Delaware Technical & Community College

The Biomedical Electronics Technology takes you beyond the basics of electronics and electricity into the world of advanced technical systems associated with medical care. You will find this program valuable if you want to develop the skills and the practical background necessary to inspect, test, calibrate, and repair advanced medical equipment and instrumentation, and to gain the interpersonal skills required to work with medical personnel. Job opportunities are available with hospitals, medical equipment companies, and other medical facilities.

What You'll Learn...

- Practical problem-solving and troubleshooting techniques
- Component identification and analysis techniques
- Current circuit and systems identification and analysis
- Advanced schematic and diagram analysis
- Medical test equipment applications

What You'll Earn...

- A competitive salary and excellent opportunities for advancement
- The opportunity to work on some of the most advanced electronic systems
- Employment as a biomedical electronics specialist, biomedical technical specialist, electrical technician or biomedical engineering technician in hospitals, medical equipment companies, and other medical facilities
- The credentials to become a biomedical electrical/electronics repair manager/supervisor

Why You'll Succeed...

- Many of the higher paying jobs, now and in the future, will be in a technical career field requiring an education beyond high school
- Employees with degrees tend to be more eligible for promotion*
- Associate degree holders generally earn more than high school graduates*
- College credit may be awarded for relevant work experience
- Many credits from an Associate Degree may be applied toward a Bachelor Degree

**Statistics from U.S. Department of Commerce, Bureau of Census*

Biomedical Electronics

You can enroll in the Biomedical Electronics Technology on either a full-time or part-time basis. The length of time required to complete an Associate Degree depends on the number of courses you take each semester. Some students may need refresher courses at the basic or pre-tech level; others may receive transfer credit or credit for work experience. Delaware Tech operates on a semester system with new terms beginning in late August and mid-January, plus summer terms beginning at the end of May and in mid-June. You can start taking courses any semester or summer term; however, all technical courses may not be offered every term.

Required Technical Courses

Introduction to Circuit Analysis is an analysis of current, voltage, and power in series, parallel and series-parallel DC circuits. Use of mesh and network theorem methods to analyze complex DC circuits is covered in addition to capacitance, magnetism, inductance, and DC transient response in capacitive and inductive circuits.

Network Analysis discusses alternating electric currents with emphasis on applied use of fundamental theorems including Kirchoff's Laws, Thevenin and Norton's Theorems, maximum power transfer, and transient circuit effects.

Analog Electronics I & II discusses fundamentals of applied electronic circuits. Amplifier frequency response, decibels, Miller Effect & Theorem, operational amplifier circuits and various forms of communications are also covered.

Digital Electronics I & II explores digital concepts including logic levels and pulse waveforms, Boolean algebra, and advanced topics in digital electronics including memory flip-flops and programmable logic arrays.

Biomedical Instrumentation is an introduction to the use, maintenance, and repair of biomedical equipment and a brief introduction to anatomy and physiology.

Internship offers applied experience through a supervised work situation such as a campus repair shop, computer business, or industrial facility.

Biomedical Electronics Internship provides applied experience through a supervised work situation in a biomedical lab facility or hospital.

Introduction to Anatomy & Physiology includes structure and function of the human body with an emphasis on gross anatomy. All organ systems and their relationship to homeostasis and major disease processes are covered.

Intro to Computers & Technology provides an overview of the computer as used in engineering technologies.

Related Courses

Social Science Elective
Physics Elective

Oral Communications
Composition

Getting Started

1. Obtain an application by calling (302) 857-1020. Complete and return to Terry Campus with a \$10 application fee.
2. Take the College Placement Test (CPT) *unless college-level math, reading, and English courses have been completed with a "C" grade or better*. The CPT will determine appropriate placement and is scheduled by the Admissions Office.
3. Request that high school and/or college transcripts be sent to the Admissions Office.
4. Meet with a Delaware Tech counselor to discuss CPT results.
5. Meet with advisor to plan schedule.
6. Apply and register early for the best selection of courses.

Standards of Excellence

- ❖ Job opportunities in this technology are growing steadily ensuring employment for graduates of this technology program.