

# Biomedical Equipment Technology

A course of study prepares the students to use basic engineering principles and technical skills to install, operate, troubleshoot, and repair sophisticated devices and instrumentation used in the health care delivery system. Includes instruction in instrument calibration, design and installation testing, system safety and maintenance procedures, procurement and installation procedures, and report preparation. With an Associate in Applied Science (A.A.S.) degree and two years of experience, students should become a certified Biomedical Equipment Technician.

Information on the Biomedical Equipment Technology program is available on the Biomedical Equipment Technology website.

For specific information about potential positions and wages in biomedical equipment employment, visit the Central Piedmont Career Coach website.

## Biomedical Equipment Technology (A50100)

### Degree Awarded

The Associate in Applied Science Degree - Biomedical Equipment Technology is awarded by the college upon completion.

### Admissions

- A high school diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Central Piedmont placement tests are required in English and mathematics. Advancement Studies in mathematics and English courses are available for students to build basic skills and knowledge. A counseling/orientation appointment follows placement testing.
- Many courses require prerequisites or co-requisites; check the Courses section for details.

### Contact Information

The Biomedical Equipment Technology program is in the Engineering Technology Division. For additional information, please contact the Program Chair at 704-330-2722 ext 3143.

#### General Education Requirements

ACA 122	College Transfer Success	1.0
ENG 111	Writing and Inquiry	3.0
Select 1 of the following:		3.0
ENG 112	Writing and Research in the Disciplines	
ENG 113	Literature-Based Research	
ENG 114	Professional Research & Reporting	
COM 110	Introduction to Communication	
COM 231	Public Speaking	
Select 1 of the following:		3.0
MAT 121	Algebra/Trigonometry I	
	or MAT 171 Precalculus Algebra	
Select 1 of the following:		3.0

PSY 150 General Psychology  
or SOC 210 Introduction to Sociology

Select 1 of the following: 3.0

ART 111 Art Appreciation  
or ART 114 Art History Survey I  
or ART 115 Art History Survey II  
or DRA 111 Theatre Appreciation  
or HUM 120 Cultural Studies  
or HUM 130 Myth in Human Culture  
or MUS 110 Music Appreciation  
or MUS 112 Introduction to Jazz  
or PHI 215 Philosophical Issues  
or PHI 240 Introduction to Ethics  
or REL 110 World Religions

#### Major Requirements

BMT 111	Introduction to Biomedical Field	2.0
BMT 112	Hospital Safety Standards	3.0
BMT 120	Biomedical Anatomy & Physiology	3.0
BMT 212	BMET Instrumentation I	6.0
BMT 213	BMET Instrumentation II	3.0
BMT 223	Imaging Techniques/Laser Fundamentals	4.0

#### Networking Electives (Select 6.0 credits from the following) 6.0

CTI 120 Network and Security Foundation  
NET 125 Introduction to Networks  
NET 126 Switching and Routing

#### Other Major Courses

ELC 131	Circuit Analysis I	4.0
ELN 131	Analog Electronics I	4.0
ELN 133	Digital Electronics	4.0
DFT 154	Introduction to Solid Modeling	3.0
SEC 110	Security Concepts	3.0
CTI 130	Operating Systems and Device Foundation	6.0
WBL 122 & WBL 125	Work-Based Learning II and Work-Based Learning Seminar II	3.0

#### BMT Electives (Select 3.0 credits from the following) 3.0

BMT 225 Biomedical Trouble Shooting  
ATR 112 Introduction to Automation  
ELC 213 Instrumentation  
ELC 229 Applications Project  
ELN 232 Introduction to Microprocessors  
ELN 233 Microprocessor Systems  
ELN 260 Programmable Logic Controllers  
NET 225 Enterprise Networking  
NET 226 Network Programmability  
PCI 170 DAQ and Control  
PCI 173 Programmable Systems  
SEC 150 Secure Communications  
SEC 160 Security Administration I

\*\*WBL 111 and WBL 115 count as 1 course\*\*

WBL 111 Work-Based Learning I  
& WBL 115 and Work-Based Learning Seminar I

\*\*WBL 112 and WBL 115 count as 1 course\*\*

WBL 112 & WBL 115	Work-Based Learning I and Work-Based Learning Seminar I	
<b>Total Credits</b>		<b>73</b>

## Biomedical Equipment Technology Diploma (D50100)

ENG 111	Writing and Inquiry	3.0
MAT 121 or MAT 171	Algebra/Trigonometry I Precalculus Algebra	3.0
<b>Major Courses</b>		<b>21.0</b>
BMT 111	Introduction to Biomedical Field	
BMT 112	Hospital Safety Standards	
BMT 120	Biomedical Anatomy & Physiology	
BMT 212	BMET Instrumentation I	
BMT 213	BMET Instrumentation II	
BMT 223	Imaging Techniques/Laser Fundamentals	
<b>Other Major Courses</b>		<b>17.0</b>
CTI 120	Network and Security Foundation	
ELC 131	Circuit Analysis I	
ELN 133	Digital Electronics	
SEC 110	Security Concepts	
WBL 122 & WBL 125	Work-Based Learning II and Work-Based Learning Seminar II	
Biomed Elective (Select one class)		3.0
WBL 111 & WBL 115	Work-Based Learning I and Work-Based Learning Seminar I (** WBL 111 & WBL 115 are viewed as one class)	
WBL 112 & WBL 115	Work-Based Learning I and Work-Based Learning Seminar I (** WBL 112 & WBL 115 are viewed as one class)	
NET 125	Introduction to Networks	
CTI 130	Operating Systems and Device Foundation	
<b>Total Credits</b>		<b>47</b>

## Biomedical Equipment Technology Certificate (C50100)

### Biomedical Equipment Technology Certificate Specialization in Biomedical Equipment Technology Pathway (C50100-C1)

#### Major Requirements

ELC 131	Circuit Analysis I	4.0
MAT 121	Algebra/Trigonometry I	3.0
BMT 111	Introduction to Biomedical Field	2.0
BMT 120	Biomedical Anatomy & Physiology	3.0
<b>Total Credits</b>		<b>12</b>

### Biomedical Equipment Technology Suggested Course Sequence

The following is the suggested plan for when to take each course to complete the Associate in Applied Science degree, based on the program requirements of the 2024-2025 catalog. This is only a recommendation — you may take courses in another order upon consultation with your advisor. This plan is based on you starting with college-level math and

English courses, starting your program in the fall, and attending full-time. You can also follow this sequence if you attend part-time. Speak with your academic advisor about the plan and any questions. This program might also offer diplomas or certificates; visit the catalog or contact the program for details. Visit the Academic Advising page for instructions on locating your assigned advisor: <https://www.cpcc.edu/academics/academic-advising>

Term I		Credits
BMT 111	Introduction to Biomedical Field	2.0
BMT 112	Hospital Safety Standards	3.0
MAT 121	Algebra/Trigonometry I	3.0
ENG 111	Writing and Inquiry	3.0
ELC 131	Circuit Analysis I	4.0
ACA 122	College Transfer Success	1.0
<b>Credits</b>		<b>16</b>
Term II		Credits
BMT 120	Biomedical Anatomy & Physiology	3.0
English/Communications Elective		3.0
DFT 154	Introduction to Solid Modeling	3.0
Networking Elective		3.0
ELN 133	Digital Electronics	4.0
<b>You may have completed program certificate C50100-C1. Confirm eligibility with your academic advisor.</b>		
<b>Credits</b>		<b>16</b>
Term III		Credits
PHI 240	Introduction to Ethics	3.0
SEC 110	Security Concepts	3.0
PSY 150	General Psychology	3.0
<b>Credits</b>		<b>9</b>
Term IV		Credits
BMT 212	BMET Instrumentation I	6.0
BMT 223	Imaging Techniques/Laser Fundamentals	4.0
Networking Elective		3.0
ELN 131	Analog Electronics I	4.0
<b>Credits</b>		<b>17</b>
Term V		Credits
BMT 213	BMET Instrumentation II	3.0
BMT Elective		3.0
CTI 130	Operating Systems and Device Foundation	6.0
WBL 122E	Work-Based Learning II	2.0
WBL 125E	Work-Based Learning Seminar II - BIOMED	1.0
<b>You may have completed a program certificate(s). Confirm eligibility with your academic advisor.</b>		
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>73</b>