# **BIOMEDICAL ENGINEERING TECHNOLOGY**

#### Credentials

Does the idea of working on sophisticated diagnostic equipment and medical devices in a health care setting excite you? If so, the field of biomedical engineering technology could be for you.

Schoolcraft offers a biomedical engineering technologist associate in applied science degree that teaches students to maintain and repair medical electronic equipment in hospitals, labs and industries engaged in the manufacture and sale of these products. For those already working in the field, the biomedical applications post-associate certificate can help you advance in your career by providing you with the knowledge and skills needed to meet the demands of the rapidly changing biomedical field.

- Our state-of-the-art lab enables you to troubleshoot equipment and design prototypes.
- You can apply your skills in the program's two-semesterlong internship, which gives you hands-on, in-the-field training in one of the area's most respected hospitals.
- Students must complete internships to be eligible to fulfill program requirements.

Job Titles & Median Salaries or Hourly Rates

• Biomedical Engineering Technician: \$45,864 (Michigan)

This post-associate certificate in biomedical applications is designed to provide working professionals who have experience and/or training in biomedical engineering opportunities to study new technologies and innovations.

Completion of this program will enhance a professional's ability to meet the demands of rapidly changing technologies in the biomedical field. These courses are also intended to meet requirements for current and future professional certification.

Prior to admission to this program, students must have completed a minimum of an accredited associate degree in biomedical engineering technology. All courses are not offered each semester. Students should work with an academic advisor or counselor to set up a schedule that will work for them. The post-associate certificate is awarded upon successful completion of 16 credit hours (exact number may vary slightly due to credit value or content of course).

# **Biomedical Applications Post-Associate Certificate**

## **Program Courses**

A student is rec	quired to choose the two courses listed be	low:
CIS 171	Introduction to Networking	3
CIS 235	Managing and Troubleshooting PCs	3

A student may choose from any of the courses listed below:

BUS 220	Supervision	3
CIS 125	Principles of Information Security	3
CIS 172	Network Security Fundamentals	3
CIS 173	Wireless Local Area Networks	3
CIS 178	Technical Microsoft Windows	3
CIS 250	Systems Development and Design	4
CIS 251	IT Project Management	3
CIS 271	Local Area Networks	3
CIS 273	TCP/IP and Network Architectures	3
ELECT 144	Introduction to Microcontrollers	3
QM 107	Quality Planning and Team Building	3
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Completion of a minimum of 16 credit hours is essential.

Courses can be taken through independent study.

Students may choose an applicable 200-level elective.

The biomedical engineering technologist (BMET) program is designed to develop technicians able to maintain and service medical electronic equipment in hospitals, pathological and hematological laboratories, and industries engaged in the manufacture and sale of medical electronic equipment. The program is divided into two components. The first year (three semesters) culminates in an electronic technology certificate. In order for candidates to be eligible to apply for the second year of the program they must meet the following qualifications:

1. Have an overall GPA of 2.5.

2. Achieve a minimum GPA of 2.5 in each electronics course.

3. Achieve a minimum GPA of 3.0 in Biology 105.

Candidates who have met these conditions must be approved by the BMET Internship Coordinator before registering in BMET 116, BMET 204, BMET 254 or BMET 255. Due to the limited availability of worksites, candidates who have met these conditions will be prioritized for admission into the BMET sequence based on the following elements: BMET application date, overall GPA, position in the sequence of program courses. Students must complete internships to be eligible to fulfill program requirements.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

This program requires a special admissions process. Contact the Admissions and Welcome Center at 734-462-4426 or admissions@schoolcraft.edu to complete an application.

## Biomedical Engineering Technologist AAS Degree

## SAMPLE SCHEDULE OF COURSES

# Admission Prerequisites

## First Year—Fall Semester

ELECT 131	Basic Measurement and Reporting Skills	3
ELECT 137	DC Circuits and Mathematical Modeling	5
ENG 101	English Composition 1	3
BIOL 105	Basic Human Anatomy and Physiology	4

## Total Credits 15

#### First Year—Winter Semester

ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 139	Diodes and Transistors	3
ELECT 180	LabVIEW Programming CORE 1 and 2	5

#### Total Credits 13

#### First Year—Spring/Summer Session

ELECT 215	Operational Amplifiers and Linear
	Integrated Circuits
ELECT 219	Digital Logic Circuits4

## **Total Credits 8**

#### Admission to the Biomedical Program Internship Sequence

#### Second Year—Fall Semester

BMET 116	Biomedical Instrumentation Terminology	
	and Safety 1	3
Mathematics	Select 1	4
MATH 111	Applications—Utility of Math	
MATH 113	Intermediate Algebra for College Students	
Social Science	Select 1	3
POLS 209	International Relations	
PSYCH 153	Human Relations	
SOC 210	Cultural Diversity	
English	Select 1	3
ENG 102	English Composition 2	
ENG 116	Technical Writing	

**Total Credits 13** 

#### Second Year—Winter Semester

BMET 204	Biomedical Instrumentation Terminology	
	and Safety 24	
BMET 254	Biomedical Equipment Internship 13	
Elective*	Select from the list below	
Elective*	Select from the list below	
HUM 106	Introduction to Art and Music1	

#### **Total Credits 14–16**

#### Second Year—Spring/Summer Session

BMET 255	Biomedical Equipment Internship 2	3
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#### **Total Credits 3**

## **PROGRAM TOTAL 66–68 CREDITS**

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor.

\* Number of credits may vary depending on the course selection.

#### Electives

BMET 125	Laser Safety Concepts	.3
CIS 171	Introduction to Networking	.3
CIS 235	Managing and Troubleshooting PCs	.3
COMPS 124	Introduction to Personal Computers	
	and Software	.3
COMPS 126	Technical Programming	.3
ELECT 144	Introduction to Microcontrollers	.3
ELECT 145	Fluid Power	.4
ELECT 218	AC/DC Motors	.3
ELECT 228	Electronic Troubleshooting	.3
ELECT 251	Programmable Logic and Industrial Controls	.4
MET 102	Introduction to Materials Science	.3