

Program: Biomedical Service Technician: Clinical Engineering AAS (115 credits)

Program Description:

Health care, the largest industry in the country, employs more than 14 million people, and figures continues to mount. From small-town private practices to mammoth inner-city hospitals, health care workers are in high demand. The patients in those practices and hospitals depend not only on the expertise of doctors and nurses, but on the proper functioning of sophisticated biomedical equipment. The people responsible for repairing and maintaining these highly specialized machines and instruments such as defibrillators, heart monitors, electric wheelchairs, medical imaging equipment (x rays, CAT scanners, and ultrasound equipment), are biomedical service technicians. They inspect and install equipment used by doctors, nurses, and other healthcare providers for researching, monitoring, diagnosing, and treating illnesses and disorders. They also repair, calibrate, and safety test the equipment in order to ensure proper function and safety for both the operator and the patient

For program costs and fees refer to the catalog TUITION AND FEES PAGE.

Program Learning Outcomes:

1. Practice safety measures and equipment as required by the FDA, NFPA, NEC, OSHA and others
2. Follow all HIPPA laws and guidelines for patient privacy
3. Operate biomedical equipment with knowledge of biological systems and signals as required to understand the equipment's correct function
4. Identify, analyze, and integrate the technical equipment requirements with needs of the medical staff and patients
5. Read and comprehend blueprints, wiring diagrams, schematic diagrams and service information
6. Operate electronic test equipment and tools to analyze and identify functional/non-functional biomedical equipment
7. Solder or replace defective components using appropriate tools and equipment
8. Establish professional oral and written business communication skills appropriate in a clinical environment
9. Maintain skills for lifelong learning by locating, evaluating and applying relevant information using external resources such as the internet, data books, trade publications and library resources
10. Display professional, ethical behaviors within the requirements of a clinical setting
11. Demonstrate effective working relationships with people who are similar or different
12. Function as a member of a team to complete a task in a timely and efficient manner; delegating, organizing and documenting tasks and results.

Required Courses:

QTR. 1	BMST105	Testing Equipment	5
	BMST106	Soldering	2
	EEST101	Electrical Safety	4
	EEST102	Applied Math	4

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	EEST103	Electronics Principles I	5
QTR. 2	BMST119	Medical Equipment Research I	2
	BMST217	Biomedical Instrumentation	5
	EEST104	DC Electronics	4
	EEST105	AC Electronics	5
	EEST106	RLC Circuits	4
	BIOL175	Human Biology With Lab	*GenEd
			5 not listed in previous catalog)
QTR. 3	BMST107	Schematics	3
	EEST107	Electronics Principles II	5
	EEST108	Electronic Devices I	4 (not listed in previous catalog)
	EEST223	Introduction to Digital Systems	5
QTR. 4	BMST109	Applied Service I	3
	BMST218	Biomedical Equipment	3
	BMST219	Medical Equipment Research II	2
	EEST109	Electronic Devices II	4
	EEST207	Introduction to Networking	5
QTR. 5	BMST110	Applied Service II	2
	BMST201	Imaging Systems	3
	BMST215	Introduction to Medical Terminology	3
	EEST221	Electronic Principles –RFID	4
QTR. 6	BMST102	Blood Borne Pathogens	3
	BMST103	HIPAA	2
		Optional EEST elective from below And one of the following	4-5 not listed in previous catalog)
	BMST220	Biomedical Engineering Applications	5
		<u>Or</u>	
	BMST296	Work-based Learning Experience w/Seminar	1-13 not listed in previous catalog)

General Education Requirements

Communications

5 credits required

ENGL175

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ENGL&101 ENGLISH COMPOSITION I

Humanities/Social Sciences/Natural Sciences/Other 5 credits required

BIOL&160 GENERAL BIOLOGY

BIOL&175 HUMAN BIOLOGY WITH LAB

BIOL&241 ANATOMY & PHYSIOLOGY I

BIOL&242 HUMAN A&P II

BIOL&260 MICROBIOLOGY

CHEM&121 INTRODUCTION CHEMISTRY

CHEM&131 INTRODUCTION TO ORGANIC/BIOCHEMISTRY

CMST&102 INTRO TO MASS MEDIA

CMST&152 INTERCULTURAL COMMUNICATION

CMST&210 INTERPERSONAL COMMUNICATION

CMST&220 PUBLIC SPEAKING

ECON&201 MICROECONOMICS

NUTR&101 INTRO TO NUTRITION

POLS&101 INTRO TO POLITICAL SCIENCE

PSYC&100 GENERAL PSYCHOLOGY

PSYC&200 LIFESPAN PSYCHOLOGY

SOC&101 INTRO TO SOCIOLOGY

Quantitative

5 credits required

MATH172 APPLIED BUSINESS MATH

MATH&141 PRECALCULUS I

MATH&142 PRECALCULUS II

MATH&146 INTRODUCTION TO STATISTICS

MATH&151 CALCULUS I

MATH&152 CALCULUS II

Note: See a Career Advisor prior to choosing courses that meet general education requirements.