Degree Requirements
For the Associate in Engineering Technology degree in Biomedical Engineering Technology, a minimum of 71 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>21</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>62-63</td>
</tr>
</tbody>
</table>

General Education
Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (http://bulletins.psu.edu/undergraduate/general-education/associate-degree-general-education-program) section of the Bulletin and consult your academic adviser.

Foundations (grade of C or better is required.)
- Quantification (GQ): 3 credits
- Writing and Speaking (GWS): 3 credits

Knowledge Domains
- Arts (GA): 3 credits
- Humanities (GH): 3 credits
- Social and Behavioral Sciences (GS): 3 credits
- Natural Sciences (GN): 3 credits

Foundations or Knowledge Domains
- A General Education course selected from GWS, GQ, GN, GA, GH, or GS, and may include Integrative Studies (Inter-domain or Linked) courses: 3 credits

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program. 12 of these 21 credits are included in the Requirements for the Major.

University Degree Requirements

Cultures Requirement
3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements

Writing Across the Curriculum
3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits
A minimum of 60 degree credits must be earned for an associate degree. The requirements for some programs may exceed 60 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.
Limitations on Source and Time for Credit Acquisition
Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

Requirements for the Major
This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

Code    Title                                Credits
BE_T 101 Introduction to Medical Equipment Maintenance 1
CHEM 101 Introductory Chemistry                         3
EET 105 Electrical Systems                              3
CMPET 117 Digital Electronics                          3
CMPET 120 Digital Electronics Laboratory              1
ENGL 15 Rhetoric and Composition                       3
IST 220 Networking and Telecommunications               3
CAS 100 Effective Speech                                3
PHYS 150 Technical Physics I                            3
RADSC 230 Radiographic Physics                          3

Prescribed Courses: Require a grade of C or better
IST 110 Information, People and Technology             3
BE_T 201 Medical Equipment & Systems I                  5
BE_T 204 Medical Equipment and Systems II               5
BE_T 205 Medical Electronics                           4
BE_T 203 Biomedical Equipment Laboratory (Internship)  4 (must be the last course taken for the degree)

Additional Courses
MATH 22 College Algebra II and Analytic Geometry & MATH 26 and Plane Trigonometry
or MATH 40 Algebra, Trigonometry, and Analytic Geometry
BISC 4 Human Body: Form and Function or BIOL 141 Introductory Physiology
Select 3 credits from the following technical courses:
BE_T 210 Troubleshooting Medical Equipment
BE_T 296 Independent Studies
BE_T 297 Special Topics
BIOL 129 Mammalian Anatomy
CMPET 211 Embedded Processors and DSP
CMPSC 101 Introduction to C++ Programming
EDSGN 100 Introduction to Engineering Design
EET 213W Fundamentals of Electrical Machines Using Writing Skills
EET 297 Special Topics
EGT 201 Advanced Computer Aided Drafting
MCHT 111 Mechanics for Technology: Statics

Additional Courses: Require a grade of C or better
BE_T 202 Medical Computers and Networks
BE_T 206

Program Educational Objectives
The BET major prepares graduates who, during the first few years of professional practice, will be able to:

- Apply knowledge of medical devices to install, perform acceptance testing and preventive maintenance (PMs) inspections, troubleshoot, and repair a wide variety of medical devices.
- Be employed in the healthcare technology management (HTM) profession, and advance their careers by engaging in continuous learning through CBET certification and/or other professional training programs and independent study.
- Identify and apply standards, regulations, and quality improvement plans regarding medical equipment.
- Work both independently and collaboratively in multi-disciplinary teams, communicating effectively with relevant healthcare related professionals.

Student Outcomes
The BET program outcomes are as follows:

1. Understand use, application, operation, installation, acceptance testing, preventive maintenance, performance assurance and safety inspections (PMs) on select medical devices.
2. Understand and apply a fundamental knowledge of electrical and electronic engineering technology fundamentals, components, circuits and networking fundamentals.
3. Apply basic mathematical and scientific principles to identify, analyze and solve technical problems.
4. Be aware of and understand diversity, professional and ethical responsibilities, applicable standards and regulations regarding medical equipment support.
5. Work with fellow technicians, clinical professionals and other related professionals by functioning effectively on teams and by independent work.
6. Communicate effectively with fellow technicians, clinical professionals and other related professionals.
7. Recognize and understand the need for continued professional development, including formal and informal study.
8. Recognize, observe and participate when possible in quality improvement programs, timeliness and commitment to continuous improvement that support medical equipment and systems.

Academic Advising
The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary
academic adviser, the information need to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy)

New Kensington
Joie Marhefka
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Suggested Academic Plan
Biomedical Engineering Technology at New Kensington Campus
The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year
#### Fall
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE_T 101</td>
<td>1</td>
</tr>
<tr>
<td>EET 105</td>
<td>3</td>
</tr>
<tr>
<td>IST 110*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 26</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 15*</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

#### Spring
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPET 117</td>
<td>3</td>
</tr>
<tr>
<td>CMPET 120</td>
<td>1</td>
</tr>
<tr>
<td>IST 220</td>
<td>3</td>
</tr>
<tr>
<td>MATH 22 (GQ)*</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>2-3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>15-16</strong></td>
</tr>
</tbody>
</table>

### Second Year
#### Fall
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE_T 201*</td>
<td>5</td>
</tr>
<tr>
<td>BE_T 205*</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 141 or BISC 4 (GN)*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 150 (GN)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADSC 230</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

#### Second Year
#### Spring
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE_T 206*</td>
<td>4</td>
</tr>
<tr>
<td>BE_T 204*</td>
<td>5</td>
</tr>
<tr>
<td>Technical Elective (See Adviser for list)</td>
<td>3</td>
</tr>
<tr>
<td>CAS 100</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
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<tr>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

#### Second Year
#### Summer
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE_T 203*</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:
US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).
W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.
GWS, GQ, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GN, GA, GH, and GS). Foundations courses (GWS and GQ) require a grade of ‘C’ or better.
Integrative Studies courses can be completed for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

Career Paths
Students with a degree in biomedical engineering technology are well positioned for careers at hospitals, clinics, medical practice offices, surgical centers, nursing homes, and rehabilitation centers.

Penn State students with an A.S. in Biomedical Engineering Technology have been successful in pursuing various careers within the Healthcare Technology Management field.

Careers
- Biomedical Engineering Technician/Clinical Engineer in a Hospital
- Field Service Technician
- Repair Technician for a Medical Device Company
MORE INFORMATION ABOUT CAREERS (http://career engr.psu.edu)

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (http://www.engr.psu.edu/students/grad-prospective/default.aspx)

Accreditation
This program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet org (http://www.abet.org).

MORE INFORMATION (http://www.abet.org)

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http://newkensington.psu.edu/2-year-biomedical-engineering-technology