

## Program Information

The Associate of Science (AS) in Applied Engineering Technology-Biomedical Design and Manufacturing degree program will prepare students for a career in Biomedical Device Manufacturing at either a technician level, or advance to an applied engineering level. Drawing heavily on industry representative feedback, this unique program of study includes an introduction to biomedical manufacturing technology and industry-specific software and hardware training. Along with a strong general education core including a solid science and math foundation, students will participate in coursework that strengthens their communication and critical thinking/problem-solving abilities. For assistance in program planning, or to explore additional transfer options, students should schedule a time to meet with an academic advisor. This degree may transfer in part or in its entirety to baccalaureate institutions. Students should meet with a representative of the transfer institution when planning their program. For additional information about our programs, visit our website at: [AnokaRamsey.edu/BMED](http://AnokaRamsey.edu/BMED).

## Program Goals

By completing this program, students will achieve the following learning goals:

1. Apply mathematical, physical and biological foundations to the solution of biomedical engineering problems;
2. Incorporate techniques, skills, and tools necessary for achieving robust engineering solutions;
3. Develop a comprehensive awareness of constraints that challenge the design and manufacture of biomedical devices; and
4. Demonstrated capacity to participate on multi-disciplinary teams to achieve desired results.

## Developmental Courses

Some students may need preparatory courses in the areas of English, mathematics, or reading. Courses numbered below 1000 will not apply toward this degree.

## Completion Requirements

- A minimum of 60 semester credits in courses numbered 1000 or above.
- A minimum cumulative grade point average (GPA) of 2.0 in courses numbered 1000 or above at ARCC.
- Satisfy residency requirements.
- A minimum grade of C must be earned in all program requirements.
- Completion of specific degree requirements.
- To complete your program, please submit the appropriate application found [here](#).
- The requirements of this program are subject to change without notice.

◆ *Course has prerequisite - see course schedule or catalog description.*

▲ *Course requires Instructor permission.*

NOTE: You are encouraged to contact an academic advisor at 763-433-1230 for course planning assistance and information about transfer credit evaluation and transfer options.

## Program Requirements: 28 credits

<input type="checkbox"/>	AENG 2225	Digital Electronics .....	3
<input type="checkbox"/>	AENG 2230	Electromechanical Devices.....	3
<input type="checkbox"/>	AENG 2235	Instrumentation and Control.....	3
<input type="checkbox"/>	BMED 1100	Introduction to Biomedical Devices and Industry..	2
<input type="checkbox"/>	BMED 2100	Design and Manufacturing in the Medical Device Industry.....	3
<input type="checkbox"/>	BMED 2200	Introduction to Medical Device Regulations and Ethics .....	3
<input type="checkbox"/>	BMED 2300	Introduction to Quality Assurance.....	3
<input type="checkbox"/>	BMED 2520◆	Technical Writing for Regulated Industries .....	3
<input type="checkbox"/>	BMED 2600	Fundamentals of Dimensional Metrology .....	2
<input type="checkbox"/>	ENGR 1111◆	Engineering Graphics .....	3

## General Education/MnTC Requirements: 32 credits

Complete at least 32 credits in courses from the Minnesota Transfer Curriculum (MnTC), including all courses listed. You must complete at least one course in six of the ten goal areas. One course may satisfy more than one goal area, but the course credits may be counted only once.

- |                          |   |                                       |   |
|--------------------------|---|---------------------------------------|---|
| <input type="checkbox"/> | 1. Communication                                      |                                       |   |
|                          | <input type="checkbox"/>                              | ENGL 1120◆ <b>OR</b> ENGL 1121◆ ..... | 4 |
|                          | <input type="checkbox"/>                              | CMST 2251 .....                       | 3 |
| <input type="checkbox"/> | 2. Critical Thinking ( <i>met by ENGL 1120/1121</i> ) |                                       |   |
| <input type="checkbox"/> | 3. Natural Science                                    |                                       |   |
|                          | <input type="checkbox"/>                              | BIOL 1104 .....                       | 4 |
|                          | <input type="checkbox"/>                              | PHYS 1317◆.....                       | 5 |
| <input type="checkbox"/> | 4. Mathematical/Logical Reasoning                     |                                       |   |
|                          | <input type="checkbox"/>                              | MATH 1114◆.....                       | 4 |
|                          | <input type="checkbox"/>                              | MATH 1200◆.....                       | 3 |
|                          | <input type="checkbox"/>                              | MATH 1201◆.....                       | 4 |
| <input type="checkbox"/> | 5. History/Social/Behavioral Sciences                 |                                       |   |
| <input type="checkbox"/> | 6. Humanities/Fine Arts                               |                                       |   |
| <input type="checkbox"/> | 7. Human Diversity                                    |                                       |   |
| <input type="checkbox"/> | 8. Global Perspective                                 |                                       |   |
| <input type="checkbox"/> | 9. Ethical/Civic Responsibility                       |                                       |   |
| <input type="checkbox"/> | 10. People and the Environment                        |                                       |   |