2022-2023

Applied Engineering Technology-Biomedical Design & Manufacturing Associate of Science (AS) Degree

Program Requirements 28
General Education/MnTC 32
Total Credits 60

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.

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.

Program Requirements: 28 credits

☐ AENG 2225	Digital Electronics	3
☐ AENG 2230	Electromechanical Devices	3
☐ AENG 2235	Instrumentation and Control	3
☐ BMED 1100	Introduction to Biomedical Devices and Industry	2
☐ BMED 2100	Design and Manufacturing in the Medical Device Industry	3
☐ BMED 2200	Introduction to Medical Device Regulations and Ethics	3
☐ BMED 2300	Introduction to Quality Assurance	3
☐ BMED 2520♦	Technical Writing for Regulated Industries	3
☐ BMED 2600	Fundamentals of Dimensional Metrology	2
☐ 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.

☐ 1. Communication
- ☐ ENGL 1120♦ ***OR*** ENGL 1121♦ 4
- ☐ CMST 2251 3

☐ 2. Critical Thinking (*met by ENGL 1120/1121*)

☐ 3. Natural Science
- ☐ BIOL 1104 4
- ☐ PHYS 1317♦ 5

☐ 4. Mathematical/Logical Reasoning
- ☐ MATH 1114♦ 4
- ☐ MATH 1200♦ 3
- ☐ MATH 1201♦ 4

☐ 5. History/Social/Behavioral Sciences

☐ 6. Humanities/Fine Arts

☐ 7. Human Diversity

☐ 8. Global Perspective

☐ 9. Ethical/Civic Responsibility

☐ 10. People and the Environment

♦ ***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.