Michigan Technological University
Minor in Medical Devices and Instrumentation
Program Code EMDM, Academic Year 2026-2027
Department of Biomedical Engineering
Minimum Credits Required: 18

This minor is not open to students majoring in Biomedical Engineering or Electrical Engineering with a Biomedical Applications concentration.

Required Course: 12 credits

- BE 2400 Cellular and Molecular Biology I (3) *Prereqs: CH1150 and MA1121 or MA1160 or MA1161*
- BE 2700 Biomedical Signals & Systems (3) *Prereqs: CH1150, MA2160, ENG1102 and PH2100*
- BE 3700 Biomedical Instrumentation (3) *Prereqs: BE2700, EE3010, PH2200, BL2020*
- BE 4755 Medical Devices (3) *Prereqs: none*

Elective Courses: 6 credits minimum

- BE 3400 Laboratory Techniques for BME (2) *Prereqs: BE2800*
- BE 3701 Biomedical Instrumentation Lab (1) *Prereqs: BE2800*
- BE 3800 Properties & Biointeractions of Materials (3) *Prereqs: BE2700 and BE2800*
- BE 4115 Finite Element Modeling (3) *Prereqs: (MA2320 or MA2321) and (MA3520 or MA3521) and (BE3350 or MEEM2150)*
- BE 4250 Biomedical Optics (3) *Prereqs: (MA2320 or MA2321 or MA2330) and (MA3520 or MA3521 or ma3530 or MA3560) and MA3160*
- BE 4410 Medical Imaging (3) *Prereqs: BE3700 and BE3701*
- BE 4510 Cardiovascular Engineering (3) *Prereqs: BE2400*
- BE 4670 Micro- and Nanotechnology for Biomedical Applications (3) *Prereqs: PH2100 or EE3010*
- BE 4700 Biosensors: Fabrication & Application (3) *Prereqs: BE3700 and BE3701*
- BE 4770 Biomedical Microcontrollers (3) *Prereqs: BE3700 and BE3701*