

The Ohio State University College of Engineering
Department of Biomedical Engineering
Biomedical Engineering Minor (BIOMEDE-MN)

Biomedical Engineering Department,
2124 Fontana Labs, 140 W 19th Ave
[Biomedical Engineering Minor website](#)
Academic Advisor: Melissa Crohen (crohen.2@osu.edu)

The minor is designed to provide undergraduate students education and problem-solving skills in biomedical engineering and its applications to better prepare them for jobs in industry, or advanced studies and research in this field. Students taking the minor will be more employable in health services, pharmaceutical industries, rehabilitation engineering, biomedical product companies, and many relatively new high-tech industries such as those developing and manufacturing bio-microelectromechanical systems.

The biomedical engineering minor consists of 12 credit hours of course work as listed below.

Prerequisites Courses (9-15 courses; 32-59 CH)

1. Complete **one** of the following calculus sequences:
 - a. MATH 1151 (5) (-or- 1156 (5) -or- 1140 (4) & 1141 (4)) and 1172 (5)
 - b. MATH 1151 (5) (-or- 1156 (5) -or- 1140 (4) & 1141 (4)), 1152 (5) and 2153 (4)
 - c. MATH 1161.xx (5) and 2162.xx (5)
 - d. MATH 1181H (5) and 2182H (5)
 - e. MATH 4181H (5) and 4182H (5)
2. Complete **one** of the following advanced mathematics courses:
 - a. MATH 2568 (3)
 - b. MATH 2173 (3)
 - c. MATH 2177 (4)
3. Complete **one** of the following chemistry courses/sequences:
 - a. CHEM 1206 (3), 1208 (5), and 1220 (5)
 - b. CHEM 1210 (5) and 1220 (5)
 - c. CHEM 1250 (4)
 - d. CHEM 1610 (5) and CHEM 1220 (5) (-or- 1620 (5))
 - e. CHEM 1910H (5) and CHEM 1220 (5) (-or- 1620 (5) -or- 1920H (5))
4. Complete **one** of the following physics courses/sequences:
 - a. PHYSICS 1248 (4) and PHYSICS 1249 (3)
 - b. PHYSICS 1250(H) (5)
 - c. PHYSICS 1260 (5)
5. Complete the following Biology course:
 - a. Biology 1113 (4)
6. Complete **one** of the following engineering sequences:
 - a. ENGR 1181.xx (2) and 1182.xx (2)
 - b. ENGR 1281.xxH (5) and 1282.xx (5)
 - c. ENGR 1281.xxH (5) and 1182.xx (2)
 - d. ENGR 1186.01 (1.5), 1187 (1), and 1188 (1.5)
7. Complete one of the following Mechanical Engineering courses:
 - a. MECHENG 2010 (2)
 - b. MECHENG 2040 (4)

Some of the courses listed below may have prerequisites beyond those required for the minor. Please consult the Course Catalog before enrolling.

Required Courses (2 courses; 6-8 CH)

1. BIOMEDE 2000 (3)
Please note that enrollment in BIOMEDE 2000 is currently restricted. Students must contact Melissa Crohen to enroll in the course.
2. Choose **one** of the following physiology/biological sciences courses:
ANATOMY 2300 (4), 3300.xx (5), 4600 (3), 4700 (4), 5710 (3)
BIOCHEM 4511 (4)
BIOLOGY 2105 (3), 2360 (3), 2750 (3), 3401 (4), 3501.xx (3), 3730 (3), 3870 (3), 4210 (3)
BIOMEDE 2200 (3), 2800 (3)

EEOB 2520 (3), 2911 (4), 3270(3), 3310.xx (3-4), 3410 (4), 3420(E) (4), 3520 (3), 3610 (3), 4240 (3), 4510 (3), 4520 (4), 4550 (3), 5340 (4), 5490 (3), 5505 (3), 5510 (3), 5610(S) (3), 5911 (4), 5930 (3-4), 5940 (3-4)
MICRBIO 4000(.xx) (4)
MOLGEN 4500(.xx)(E) (3-4)
PHYSIO 3200 (5), 3201 (5)

Advanced Elective Courses (2 courses; 6 CH)

Choose **two** courses from the lists below. **At least one** must be a Domain course; the second course **may** be an additional Domain Course or **may** be an Advanced Biomedical Engineering Course.

Domain Courses:

BIOMEDE 4110 (3), 4210 (3), 4310 (3), 4410 (3), 4510 (3), 4610 (3), 4710 (3)

Advanced Biomedical Engineering Courses:

Choose any 3 CH BIOMEDE course at the 5000 level, excluding 5193

Biomedical Engineering minor program guidelines

Credit hours required A minimum of 12 credit hrs. 1000-level courses shall not be counted in the minor. At least 6 CH must be upper-level courses as defined by the College of Engineering.

Transfer and EM credit hours allowed A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination.

Overlap with the GE A student is permitted to overlap up to two courses between the GE and the minor as long as the minor consists of at least 4 courses.

Overlap with the major and additional minor(s)

- The minor must be in a different subject than the major.
- The minor must contain a minimum of 12 hours distinct from the major and/or additional minor(s).

Grades required

- Minimum C- for a course to be listed on the minor.
- Minimum 2.00 cumulative GPA for all minor course work.
- Course work graded Pass/Non-Pass cannot count on the minor.
- No more than 3 credit hours of course graded Satisfactory/Unsatisfactory may count toward the minor

X193 credits – No more than 3 credit hours.

Declaring the minor

In order to declare the minor, students must meet with Melissa Crohen prior to the filing of the graduation application. Please email crohen.2@osu.edu to make an appointment.

Approval of Coursework

Initial approval of the minor coursework:

Students who complete the minor following the guidelines on this sheet need only verify with their academic advisor that the minor appears complete on the degree auditing system. No approval from the Department of Biomedical Engineering is required.

Approval for courses not listed on this form to apply to the minor program:

Students may not request alternatives to the listed coursework for this program; all students must adhere to the guidelines and policies outlined on this form.

College of Arts and Sciences Curriculum and Assessment Services
306 Dulles Hall, 230 Annie and John Glenn Ave; <http://artsandsciences.osu.edu>
Updated 07-21-2022 RLS
Updated 06-04-2026 RLS
Updated 10-01-2026 MCR