

# BIOMEDICAL ENGINEERING

## MS

### Degree Requirements

The following requirements are in addition to, or further elaborate upon, those requirements outlined in The Graduate School Policy Guide (<https://catalogs.northwestern.edu/tgs/academic-policies-procedures/>).

#### Coursework-Only MS Degree

**Total Units Required: 12**

Course	Title
Research Seminar (3 quarters - 0 units):	
BMD_ENG 512-0	Graduate Research Seminar in Biomedical Engineering
Two of the three listed below: <sup>1</sup>	
BMD_ENG 304-0	Quantitative Systems Physiology
BMD_ENG 305-0	Quantitative Systems Physiology
BMD_ENG 306-0	Quantitative Systems Physiology
Quantitative science and engineering courses from approved list or by permission (2 units)	
Advanced statistics course from approved list or by permission (1 unit)	
Other engineering, math, and science courses (4 units) <sup>2</sup>	
Restricted Electives (2 units) <sup>3</sup>	

<sup>1</sup> Students who have taken similar physiology courses may petition to take advanced life sciences courses as replacements.

<sup>2</sup> Courses in the following areas may not count: research for credit (BMD\_ENG 499-0 Projects), global health (except BMD\_ENG 380-0 Medical Devices, Disease & Global Health), business, design, NUvention (except for 1 quarter of NUvention Medical), seminar, or survey courses.

<sup>3</sup> Students may take design, global health, and business classes to fulfill this category. Students taking a basic statistics course may count it towards this category. Students may opt to take additional math/science/engineering courses to fulfill this category as well.

#### Other Requirements

- Examinations: none specified
- Research/Projects: either (1) approved project (one quarter minimum of BMD\_ENG 499-0 Projects) or (2) three courses with significant project components from approved list
- Other: 7 of the 12 courses must be engineering courses. Restricted electives courses do not count as engineering courses.

#### MS Degree with Thesis

**Total Units Required: 9**

Course	Title
Research Seminar (3 quarters - 0 units):	
BMD_ENG 512-0	Graduate Research Seminar in Biomedical Engineering
Two of the three listed below: <sup>1</sup>	
BMD_ENG 304-0	Quantitative Systems Physiology
BMD_ENG 305-0	Quantitative Systems Physiology
BMD_ENG 306-0	Quantitative Systems Physiology
Quantitative science and engineering courses from approved list or by permission (2 units)	

Advanced statistics course from approved list or by permission (1 unit)

Other engineering, math, and sciences courses (2 units)<sup>2</sup>

Restricted Elective (1 unit)<sup>3</sup>

<sup>1</sup> Students who have taken similar physiology courses may petition to take advanced life sciences courses as replacements.

<sup>2</sup> Courses in the following areas may not count: research for credit (BMD\_ENG 499-0 Projects), global health (except BMD\_ENG 380-0 Medical Devices, Disease & Global Health), business, design, NUvention (except for 1 quarter of NUvention Medical), seminar, or survey courses.

<sup>3</sup> Students may take design, global health, and business classes to fulfill this category. Students taking a basic statistics course may count it towards this category. Students may opt to take additional math/science/engineering courses to fulfill this category as well.

#### Other Requirements

- Signed copy of MS Mentor/Mentee Agreement ([https://www.mccormick.northwestern.edu/biomedical/documents/graduate/mentor\\_mentee-agreement\\_v2.pdf](https://www.mccormick.northwestern.edu/biomedical/documents/graduate/mentor_mentee-agreement_v2.pdf))
- Examinations: defend master's thesis
- Research/Projects: see master's thesis
- Master's Thesis: required
- Other: 5 out of 9 courses must be engineering. Restricted elective courses do not count as engineering courses.