

MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

The overall objective of the Master of Science in Biomedical Engineering degree is to provide training relevant to professional employment in a BME-related field. A minimum total of 32 credit hours is required for this degree, of which at least 24 credit hours must come from coursework; six to eight credit hours of research are required. This degree requires completion of a written dissertation and a subsequent oral defense of it before an approved master's thesis examination committee.

Admission Criteria

Because the M.S. degree requires the time and frequently the resources of a faculty mentor to be available in order to adequately execute the research component of the degree, the BME department will admit candidates who not only have the credentials suitable for this degree but for which a department faculty member consents to serve as the candidate's research mentor.

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Requirement	Credits
Minimum Degree Credits	32
Maximum 400-Level Credit	12

Code	Title	Credit Hours
Required Courses		(8)
BME 500	Introduction to Biomedical Engineering	2
BME 533	Biostatistics	3
or BME 433	Biomedical Engineering Applications of Statistics	
or CHE 426	Statistical Tools for Engineers	
or MATH 425	Statistical Methods	
BME 553	Advanced Quantitative Physiology	3
or BME 453	Quantitative Physiology	

Choose either a non-thesis (course-based) or thesis option

NON-THESIS OPTION

Code	Title	Credit Hours
Non-Thesis Electives		(24)
Choose 4 courses (12 credit hours) of 400- or 500-level BME ²		12
Choose 4 courses (12 credit hours) of 400- or 500-level Engineering, Math, Computer Science, or Life Sciences with Advisor Approval ¹		12

THESIS OPTION

Code	Title	Credit Hours	BME 400:599 (Excluding BME 492, BME 503-510, BME 591, BME 594, and BME 597).
Thesis Core		(9)	
BME 501	Communication Skills in BME	1	
BME 591	Research and Thesis for Master of Science Degree	8	
Thesis Electives		(15)	
Choose 3 courses (9 credit hours) of 400- or 500-level Engineering, Math, Computer Science, or Life Sciences with Advisor Approval ¹		9	
Choose 2 courses (6 credit hours) of 400- or 500-level BME ²		6	

¹ **Life Science, Advanced Mathematics, Computer Science, or Engineering Courses:**

Options include MATH 400:599, BIOL 400:599, CHEM 400:599, PHYS 400:599, BME 400:599, CAE 400:599, CS 400:599, CHE 400:599, MMAE 400:599, ECE 400:599, and ENGR 400:599.

Excluding 591 courses from all disciplines. Advisor approval required.

² **Biomedical Engineering Electives:**