

Master of Science in Bioengineering

The curriculum for the M.S. degree in bioengineering is designed around two basic options: a thesis option requiring formal research and a non-thesis option that concentrates on coursework, but requires a final report. The final defense for the non-thesis option will cover the student's entire body of coursework, reflecting the emphasis on courses. The report will typically take the form of an in-depth literature survey or a detailed analysis of a sub-topic within the field of bioengineering.

General requirements for both options are:

1. The student must spend at least one academic semester in residence.
2. The usual minimum time period necessary to complete all requirements is 18 months.
3. The student must successfully present and defend a thesis or report in an oral comprehensive examination, which will be open to the public.

Requirements specific to the thesis option are:

1. The student must successfully complete a minimum of 30 credit hours, including six credit hours of research, which will provide the basis for a thesis.
2. The student must submit an approved thesis to the Graduate Dean at least one week before the end of the semester in which the degree is expected.

Requirements specific to the non-thesis option are:

1. The student must successfully complete a minimum of 33 credit hours, which include six credit hours of non-thesis research, special topics, or internship at an approved external institution.
2. The student is required to prepare a final report whose subject will be chosen by the advisor in cooperation with the student. The final report must be comparable in form and quality with technical review articles appearing in peer-reviewed journals and requires approval by the advisory committee.
3. The student is not required to submit the final report to the Graduate School.

MS Degree Core and Tracks

M.S. Thesis Degree – 30 credits (including 6 research credits (BIOE 8910))

DEPARTMENTAL CORE

BIOE 6150 – Research Principles	(1 credit)
BIOE 8000 – Seminar	(up to 2 credits)
BIOE 8460 – Biomedical Basis for Engineered Replacements	(3 credits)

TRACKS – RESEARCH FOCUSED

Biomaterials Engineering	Regenerative Medicine	Bioelectrical Engineering	Biomechanical Engineering
TRACK CORE CLASS: BIOE 8010 - Biomaterials Track Members: Bob Latour (Track Chair) Jeoung Soo Lee Ying Mei Alexey Vertegel Jeremy Gilbert Angela Alexander-Bryant	TRACK CORE CLASS: BIOE 8010 - Biomaterials Track Members: Dan Simionescu (Track Chair) Aggie Simionescu Ann Foley Sarah Harcum Jeremy Mercuri Naren Vyavahare Ken Webb Brian Booth Renee Cottle	TRACK CORE CLASS: BIOE 8700 - Bioinstrumentation Track Members: Bruce Gao (Track Chair) Jordon Gilmore Delphine Dean Tong Ye Joseph Singapogu David Karig	TRACK CORE CLASS: BIOE 8200 - Biomechanics Track Members: Jiro Nagatomi (Track co-Chair) Martine LaBerge (Track co-Chair) Hai Yao Melinda Harman John DesJardins Will Richardson