MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

Program

Students with a Bachelor of Science in Biomedical Engineering or a similar degree from other universities apply through the graduate admissions website. Upon admission, 30 credits are required as per the programmatic details below in order to be awarded the M.S. degree in Biomedical Engineering.

The yearlong (two-semester) thesis option provides MS in Biomedical Engineering Students with the opportunity to pursue advanced research with a faculty advisor. The Non-Thesis option consists of 30 credits of coursework. Program requirements for both options are described below.

Thesis Option

Code	Title	Credits
BIEG 5319	Advanced Experimental Design in Biomedical Engineering	3
MATH 5417	Applied Statistics I	3
or SWEG 5317	Computational Statistics for Biomedical Sciences	
BIEG 6971	Thesis I	3
BIEG 6972	Thesis II	3
Select four Biomedical Engineering elective courses from approved list		12
Select two electives from Mechanical, Electrical, Computer, Software Engineering, Computer Science, Mathematics, or Management of Technology with approval from the program director.		6
Total Credits		**30**

Non-Thesis Option

Code	Title	Credits
BIEG 5319	Advanced Experimental Design in Biomedical Engineering	3
MATH 5417	Applied Statistics I	3
or SWEG 5317	Computational Statistics for Biomedical Sciences	
Select five Biomedical Engineering elective courses from approved list		15
Select three electives from Mechanical, Electrical, Computer, Software Engineering, Computer Science, Mathematics, or Management of Technology with approval from the program director		9
Total Credits		**30**

Biomedical Engineering Electives

Code	Title	Credits
Biomedical Engineering Electives		
BIEG 5301	Feedback Control System	3
BIEG 5309	Biosensors	3
BIEG 5311	Biomaterials	3
BIEG 5314	Introduction to Molecular Modeling	3
BIEG 5333	Biomedical Visualization	3
BIEG 5335	Clinical Engineering	3
BIEG 5350	Medical Device Design	3
BIEG 5375	Bioelectronics	3
BIEG 5387	Instrumental Analysis in Biomedical Engineering	3
BIEG 5403	Advanced Biomechanics	3
BIEG 5407	Computational Genomics	3
BIEG 5415	Engineering Applications of Numerical Methods	3
Non-Biomedical Engineering Electives (possible electives may include)		
Mechanical Engineering		
MEEG 5303	Industrial Automation	3
MEEG 5305	Design of Mechatronics Systems	3
MEEG 5312	Advanced Product Design and Manufacturing	3
MEEG 5319	Applications of Finite Element Analysis	3
MEEG 5372	Applications of Theory of Elasticity	3
Electrical Engineering		
ECEG 5315	Nanoelectronics I	3
ECEG 5335	Microelectronics	3
ECEG 5379	Communication Systems	3
ECEG 5480	Wireless Systems I	3
Computer Engineering		
ECEG 5303	Industrial Automation	3
ECEG 5325	Computer Graphics	3
ECEG 5346	Computer Systems Architecture	3
ECEG 5406	Advanced Digital Design	3
SWEG 5355	Artificial Intelligence	3
SWEG 5357	Database Management Systems	3
SWEG 5360	Machine Learning	3
Management of Technology		
MGMT 6584	Global Competitive Strategy	3
MGTN 5460	Project Management	3
MGMT 6508	Strategic Management of Technology and Innovation: The Entrepreneurial Firm	3
MGTN 5415	Information Systems	3
MGTN 5470	Leadership in Technical Enterprise	3