

Core Requirements: 9 credits

E&C-ENGR 380 Signals & Systems (pre-req Differential Equations)
MEC-ENGR 5506 Introduction to Biomaterials

Choose one of the following courses:

BIOLOGY 404 Biostatistics II
MEDB 5501 Applied Biostatistics I
COMP-SCI 5565 Introduction to Statistical Learning

Coursework Masters: 21 Elective Credits

Thesis Masters: 15 Elective Credits + 6 Thesis Credits

ENGINEERING ELECTIVES (min 9 cr)

BIOMEDICAL ENGINEERING

BMED-ENGR 5XXX Biomaterials Surface Science
BMED-ENGR 5XXX Biomedical Sensing Devices
BMED-ENGR 5XXX Biomedical Imaging
BMED-ENGR 5XXX Cellular and Tissue Mechanics &
Mechanobiology
BMED-ENGR 5XXX Bioelectromagnetics & Bioelectricity

MECHANICAL ENGINEERING

MEC-ENGR 5511 Introduction to Biomechanics
MEC-ENGR 5512 Biodynamics
MEC-ENGR 5513 Exp Biomechanics of Human
Motion
MEC-ENGR 5516 Biomedical Device Design
MEC-ENGR 5501 Intro to Polymers & Soft Materials
MEC-ENGR 5501 Imaging to Modeling
MEC-ENGR 5501 Advanced Thermodynamics
MEC-ENGR 5501 Material Selection
MEC-ENGR 5507 Advanced Dynamics & Modeling
MEC-ENGR 5557 Mechatronic System Design

ELECTRICAL & COMPUTER ENGINEERING

E&C-ENGR 5580 Digital Signal Processing
E&C-ENGR 5584 Advanced Digital Image Processing
E&C-ENGR 5582 Computer Vision
E&C-ENGR 5586 Pattern Recognition
E&C-ENGR 5516 Artificial Neural & Adaptive
Systems
E&C-ENGR 5590 Nanoelectromagnetics &
Plasmonics
E&C-ENGR 5647 Emerging Research in
Nanotechnology

CIVIL ENGINEERING

CIV-ENGR 5622 Theory of Elasticity

**BIOLOGY/MEDICAL/SCIENCE ELECTIVES
(min 6 cr)**

BIOLOGY

BIOLOGY 5516 Global Health: New & Emerging
Infectious Diseases
BIOLOGY 5517 From Bench to Bedside:
Translational Research
BIOLOGY 5525 Bioinformatics and Data Analysis
BIOLOGY 5539 Mammalian Physiology
LS-CBB 5504 Graduate Virology
LS-MBB 5509 Graduate Developmental Biology

**MEDICAL BIOINFORMATICS & COMPUTER
SCIENCE**

MEDB 5502 Applied Biostatistics II
MEDB 5514 Human Genome Epidemiology
MEDB 5520 Introduction to Medical Informatics
MEDB 5521 Clinical Bioinformatics
MEDB 5535 Quantitative Aspects of Epidemiology
MEDB 5560 Medical Decision Making
MEDB 5561 Responsible Conduct of Research
COMP-SCI 5566 Introduction to Bioinformatics
COMP-SCI 5567 Deep Learning

ORAL & CRANIOFACIAL SCIENCES

BIO-SCI 5760 Physiology of Mineralized Oral Tissues
BIO-SCI 5710 Generics and Biochemistry of Cranial
Facial Biology