

## Degree Plans

Our graduate students can choose one of three tracks to pursue and take courses in:

- Neural Engineering and Rehabilitation
- Biomedical Imaging
- Bionanoscience

### **Program Study for the M.S. in Biomedical Engineering with Thesis**

The program requires the completion of a minimum of 30 credit hours of approved graduate work distributed as follows:

- one (1) math course: BIOE 6300
- one (1) statistics course: BIOE 6301
- one (1) core course: BIOE 6350
- four (4) elective courses
- three (3) research credits
- six (6) thesis credits
- seminar attendance (required with research enrollment)

Note: Two of the four elective courses must be taken within the BIOE department (effective Fall 2016)

### **Program Study for the M.S. in Biomedical Engineering without Thesis**

The program requires the completion of a minimum of 30 credit hours of approved coursework distributed as follows:

- one (1) math course: BIOE 6300
- one (1) statistics course: BIOE 6301
- one (1) core course: BIOE 6350
- seven (7) elective courses

Note: Four of the seven elective courses must be taken within the BIOE department (effective Fall 2016)

### **Doctor of Philosophy in Biomedical Engineering (with prior M.S. Degree)**

The program requires a minimum of 54 credit hours of approved graduate work distributed as follows:

- one (1) math course (beyond M.S. level): BIOE 6300
- one (1) core course: BIOE 6350
- six (6) elective courses
- eighteen (18) research credits
- twelve (12) dissertation credits
- seminar attendance (required with research enrollment)

Note: Four of the six elective courses must be taken within the BIOE department (effective Fall 2016)

### **Doctor of Philosophy in Biomedical Engineering (directly from Undergraduate)**

The program requires a minimum of 84 credit hours of approved graduate work distributed as follows:

- two (2) math courses: BIOE 6300 and approved MATH elective
- one (1) statistics course: BIOE 6301
- one (1) core course: BIOE 6350
- eight (8) elective courses
- thirty six (36) research credits
- twelve (12) dissertation credits
- seminar attendance (required with research enrollment)

Note: Five of the eight elective courses must be taken within the BIOE department (effective Fall 2016)

## **Course Offerings Include:**

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- BIOE 6300: Math Methods in Biomedical Engineering
- BIOE 6301: Statistical Methods in Biomedical Engineering
- BIOE 6303: Biomaterials
- BIOE 6305: Brain-Machine Interfacing
- BIOE 6340: Quantitative Systems Biology and Disease
- BIOE 6341: Advanced Biofluid Dynamics
- BIOE 6342: Biomedical Signal Processing
- BIOE 6343: Global Healthcare
- BIOE 6344: Advances in Regenerative Medicine and Stem Cell Engineering
- BIOE 6345: Biomedical Informatics
- BIOE 6346: Advanced Medical Imaging
- BIOE 6347: Introduction to Optical Sensing and Biophotonics
- BIOE 6348: Advanced Bioelectromagnetic Imaging
- BIOE 6349: Biomedical Microdevices
- BIOE 6350: Genomic and Proteomic Engineering
- BIOE 6351: Diseases and Biomarkers
- BIOE 6397: Mass Transport for Bio Systems
- BIOE 6397: Cellular and Molecular Bioengineering
- BIOE 6397: Drug Design & Delivery
- BIOE 6397: Advanced Neurocomputing

- BIOE 6397: Advances in Organ Fabrication
- BIOE 6397: Advances in Vision Research
- BIOE 6397: Neural Interfaces
- BIOE 6397: Cell Biology for BME

Please note that all of our courses are offered only once a year - some courses only in the fall, and some only in the spring. We do not offer these courses in the summer session.

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