



**For more information about  
the Graduate Program in  
Biomedical Engineering,  
please contact:**

**Department of Biomedical Engineering**  
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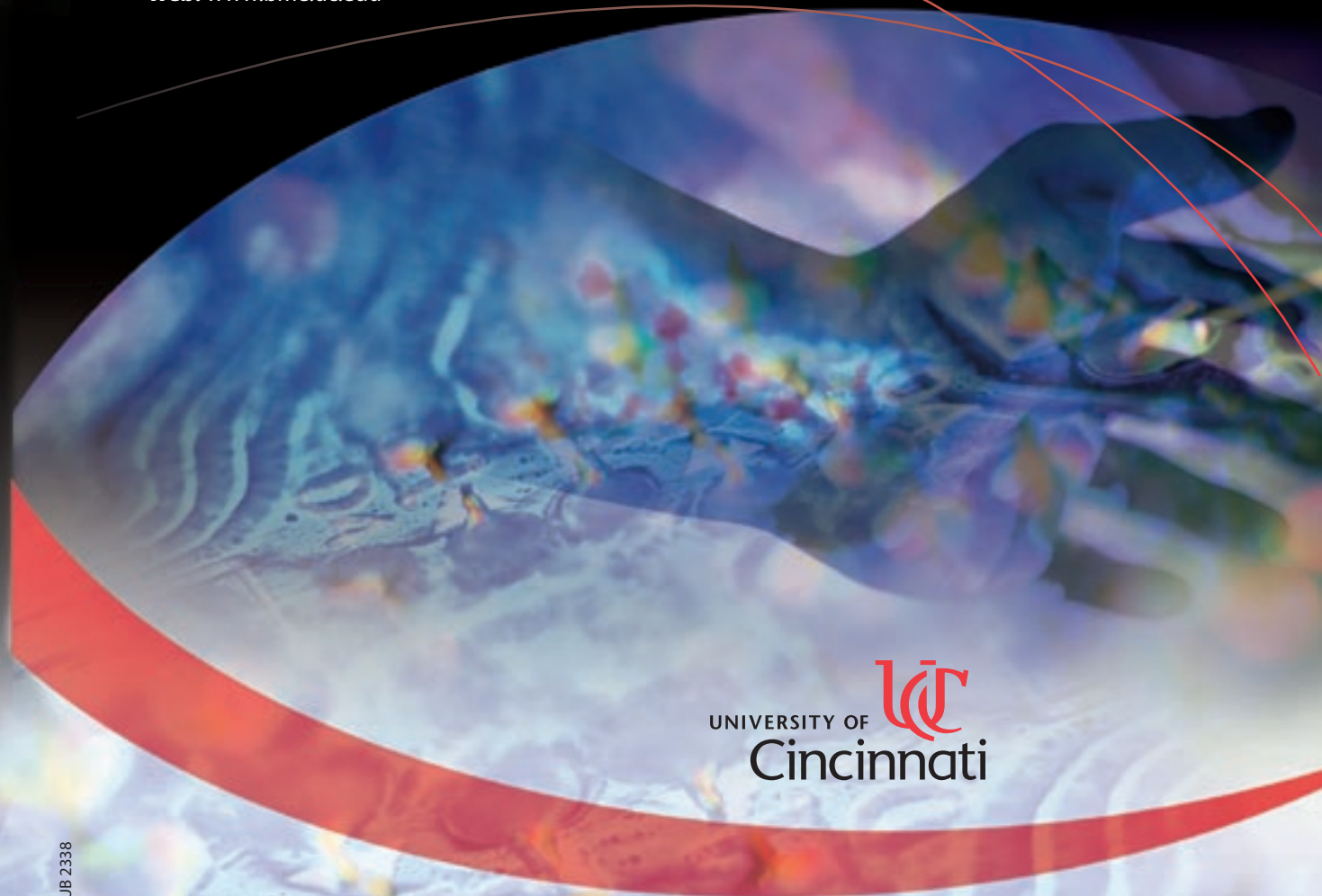
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**Graduate Program**

# Biomedical Engineering

## About the Program

The University of Cincinnati's graduate degree in biomedical engineering combines faculty, resources and expertise from its prestigious Colleges of Engineering and Medicine. One of the few such interdisciplinary advanced degree programs in the country, biomedical engineering offers three different areas of specialization, all terminating in the PhD degree.



UNIVERSITY OF  
  
Cincinnati

# Biomedical Engineering

## Graduate Program

### Course of Study

In their first two years, students take coursework consisting of core course requirements as well as courses within their major area of focus. Core requirements include Survey of Biomedical Engineering, Research Design, Biostatistics, Ethics and BME Career Building Blocks. Each student must also complete a basic biological sequence within the General Medical Sciences curriculum and can choose from technical electives from a number of focus areas.

At the end of the first year of study, students must choose a faculty advisor from either primary or secondary faculty in the Department of Biomedical Engineering. At the end of the second year, all students must complete both a written and an oral qualifying examination. The last two to three years are devoted exclusively to completion of their dissertation research.

### Research Focus Areas

**Bioinformatics** – Computationally modeling the role of genes, proteins, and neurons (using, for example neural networks) in both normal and disease states.

**Medical Imaging** – Developing methods for visualizing diseases of the brain and other vital organs using ultrasound and MRI technologies.

**Tissue Engineering/Biomechanics** – Examining ways to repair or replace tissues and organs by delivering implanted cells, scaffolds, DNA, proteins, and/or protein fragments that have received mechanical and chemical stimulation.

### Admission Requirements

Undergraduate preparation could include a bachelor of science degree in biomedical engineering, chemical engineering, material science engineering, mechanical engineering, computer science, electrical engineering or physics, depending on the focus area of interest. Listed below are the suggested pre-requisites:

**Anatomy & Physiology\***  
**Chemistry**  
**Physics**  
**Calculus**  
**Statistics**  
**Computer Programming**  
**Linear Algebra or Matrix Methods\***  
**Differential Equations\***  
**Cell Biology\***

*\* These courses can be completed during the first year of graduate school along with 12 credit hours of graduate course work.*

### Financial Aid

All students are eligible to receive full tuition scholarships and an annual graduate stipend within the first two years of their graduate studies. Each student on a university stipend or receiving tuition support is required within the first two years to serve as a teaching assistant for one course in each of the first three academic quarters under the guidance of a full-time instructor assigned to the course. Participating in the teaching experience is an excellent opportunity to gain experience in the classroom, especially for those who will follow a career path into academia.

### To Apply

Applications are only accepted online at [www.grad.uc.edu/admissions/gradapp.cfm](http://www.grad.uc.edu/admissions/gradapp.cfm) Please indicate Biomedical Engineering and note there is an application fee. The annual application deadline is December 31.

