Biomedical Engineering

Graduate Programs
The University of North Texas' Department of Biomedical Engineering offers course work leading to:

M.S. programs:
- M.S. in Biomedical Engineering, requiring 30 to 33 hours beyond the bachelor's degree
- Two-year M.S. in Biomedical Engineering with MBA from the G. Brint Ryan College of Business
- Electives: Certification in Health Services Management, offered online by the UNT Health Science Center

New Ph.D. program with two tracks:
- Healthcare Start-up
- Research

Ph.D. programs with a concentration in Biomedical Engineering:
- Electrical Engineering
- Materials Science and Engineering
- Mechanical and Energy Engineering

UNT named a Tier One research university located in Denton, TX

M.S. in Biomedical Engineering ranked 9th in the nation by Best Value Schools

UNT's academic programs are ranked nationally among the top 100

Student enrollment is 47% female

Faculty Spotlights
Dr. Melanie Ecker is an Assistant Professor of Biomedical Engineering. Her research interests lie in polymer science and biomedical engineering. She wants to combine both fields to develop biomedical devices, such as conformal and biocompatible neural devices to study the electrophysiology of the enteric nervous system.

Dr. Adam Yang is an Assistant Professor of Biomedical Engineering. He and his team apply cutting-edge multiscale biomedical engineering tools and stem cell technologies to understand and treat cardiovascular diseases. The lab uses nano-/micro-fabrication, nano-/micro-patterning, single-cell manipulation, micro-/macro-fluidics biochips, 3D bioprinting, 3D culture, in vitro and in vivo live-cell imaging and tracking, genome editing, and animal models.

Dr. Clement Chan is an Assistant Professor of Biomedical Engineering. His expertise is in Systems and Synthetic Biology. His research program uses omics techniques to understand biological systems and uses protein and cellular engineering approaches to develop cellular devices for biomedical, environmental, and industrial applications.
Admission

Ph.D. Program
Our new Ph.D. program offers two tracks: a traditional research track that will help you progress toward your academic career goals and a one-of-a-kind healthcare start-up track that will help you launch that biomedical engineering business. High-achieving students may apply with a bachelor’s or master’s degree in Biomedical Engineering.

Ph.D. Concentrations
If you would like to complement your Ph.D. in Electrical Engineering, Materials Science and Engineering or Mechanical and Energy Engineering, then our programs offering a concentration in Biomedical Engineering may be perfect.

M.S. Program
Our M.S. program is open to high-achieving students from biomedical engineering and related backgrounds like physics, chemistry, and other engineering fields. Leveling courses will be required for applicants with undergraduate degrees other than biomedical engineering. Applicants must provide official transcripts.

Fall applicants should apply by January 15th to be considered for all funding opportunities. Apply and learn more at biomedical.engineering.unt.edu.

Financial Assistance
Teaching and research assistantships provide support for many graduate students. In addition to a monthly stipend, assistantships also qualify students for in-state tuition rates, and many students receive tuition and fee support.

Scholarships are available to graduate students as well. The general scholarship deadline is March 1 of each year. The College of Engineering also offers scholarships to qualified students. Visit financialaid.unt.edu for more information.

Research Opportunities
Faculty and students in UNT’s Department of Biomedical Engineering are heavily involved in research and project-based learning initiatives. Some research areas studied in the department include:

- Biopolymers and Flexible Bioelectronics
- Biotechnology
- Medical Imaging
- Electrophysiology
- Micro and Nanoengineering in Medicine
- Nano biomaterials and Nanomedicine
- Biomechanics / Orthopedic Research
- Vital Sign Monitoring
- Exoskeletons

Student Spotlight
“I received my bachelor’s and master’s at UNT and am excited to continue learning as I pursue a Ph.D. in Biomedical Engineering. The opportunities at UNT have allowed me to branch out and focus my research in the fields of biomedical instrumentation, biomechanics, and machine learning. During my master’s, I was able to target Parkinson’s disease by evaluating the predictive capabilities of quiet standing data as I worked in the Biomedical AI Lab. After my Ph.D., I plan to find a postdoctoral position conducting research for upper-limb prosthetics.” - Trevor Exley, graduate student

Room to Grow
UNT has opened its new $12.6 million biomedical engineering building where glass-walled, open concept labs and classrooms create a transparent and collaborative environment for cutting-edge research and learning. The 26,250-square-foot building is located on UNT’s Discovery Park campus and provides faculty and students with modern classrooms, research labs, facilities for microscopy, cell culture and optics as well as teaching labs and a senior design lab.

The new labs feature hi-tech instruments such as a bio 3D printer that prints cells mimicking human tissue and a 3D virtual dissection table that allows students to delve inside the human body without a scalpel. Inside research labs, faculty investigate exoskeleton technology that may someday help people with limited mobility; develop nanotechnology and optics to diagnose cancer; and biopolymers and flexible bioelectronics that may help doctors deliver medications and manage illnesses.

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