



Biomedical Engineering

Graduate Programs

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

M.S. program options:

- 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: Electrical Engineering, Mechanical Engineering, Materials Science, Computer Science, Biology, Marketing, Management, Logistics and Supply Chain Management, Music Performance Arts Health, Health and Public Service, and Audiology.

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 Biomedical Engineering M.S. program ranked **2nd in the nation** by intelligent.com



Student enrollment in the department is **50% female**

Faculty Spotlights



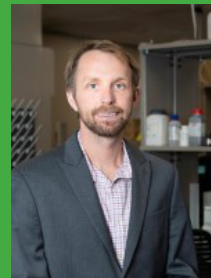
Dr. Fateme Esmailie is an Assistant Professor for the Department of Biomedical Engineering. Her research area is Thermal Fluid Science, and she conducts research through

her Thermal Fluid Assisted Medicine Lab. Dr. Esmailie received her Ph.D. in Mechanical Engineering at the University of Utah and completed her post-doc in the Cardiovascular Fluid Medicines Lab at the Georgia Institute of Technology and Emory University School of Medicine.



Dr. Youngwook Won is an Associate Professor for the Department of Biomedical Engineering. His research areas are cell engineering and cell therapy. He

received his Ph.D. in Bioengineering from Hanyang University in Korea and was a postdoctoral fellow for the Center for Controlled Chemical Delivery at the University of Utah. Dr. Won has several publications and patents under his name.



Dr. Brian Meckes is an Assistant Professor in the Department of Biomedical Engineering. Dr. Meckes received his Ph.D. in Bioengineering from the University of California and

completed his postdoc in Chemistry at Northwestern University. His research areas are 3D printing of tissue structures with single cell precision and the development of "green" nano-pesticides. Dr. Meckes conducts research from his lab, Meckes Research Group.

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. Applicants should submit GRE scores, transcripts, three letters of recommendation, a personal statement, and a resume. More information is online at biomedical.engineering.unt.edu/graduate/admissions.

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 and GRE scores.

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 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.

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.



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
- Biomedical Instrumentation
- Genetic and tissue engineering
- Bio-3D printing
- Medical Imaging
- Nano biomaterials and nanomedicine
- Biomechanics / Orthopedic Research
- Vital Sign Monitoring
- Exoskeletons and medical robotics
- Immunoengineering
- Cardiovascular remodeling

Student Spotlight

Katelyn Mathis received her undergraduate degree in biomedical engineering from Texas A&M University in College Station. She then attended UNT for her master's degree in Biomedical Engineering where she successfully defended her thesis titled *Nanolithographic Approaches to Probing Cell Membrane Modulation* in December 2021.



Mathis is now a Ph.D. student and research assistant in Biomedical Engineering at UNT under the tutelage of Dr. Brian Meckes.

Contact Us

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