



MASTER OF SCIENCE IN BIOENGINEERING

Program Overview

The Department of Chemical, Biological and Bioengineering offers high-quality educational and academic enrichment opportunities at the graduate level through the Master of Science in Bioengineering. The Department seeks to foster excellence in teaching, research and engagement; an inclusive environment to meet the needs of a diverse student population; and academic and operational excellence.

The Master of Science in Bioengineering prepares students for advanced bioengineering practice in industry, research labs and government, and for advanced education in PhD programs through high-level research and coursework. Education and research areas include Biomaterials, Biosensors and Devices, Biomechanics, Biosystems and Tissue Engineering. The program promotes leadership, professionalism, and mentoring skills through a multidisciplinary approach and networking with industrial, hospital, consulting, and government affiliates.

For More Information

Please contact:
Graduate Program Coordinator,
Dr. Yeuheung Yun
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(336) 285-3226

Program Structure

- The curriculum requirements are designed to be consistent with prominent national M.S. Bioengineering programs, and with other M.S. engineering programs at NC A&T.
- The M.S. program requires a total of 30 course credits. Course requirements include nine (9) credit hours of common core courses, nine (9) credit hours of engineering electives, one non-credit seminar each semester, and six (6) credit hours of life sciences electives selected in consultation with the advisor. The remaining 6 credit hours (for a total of 30) are met either by thesis credit hours (for the thesis option) or additional courses (for the project option).

Sample Graduate Courses:

- Corrosion and Medical Microdevices
- Regenerative Engineering
- Computational Systems Biology
- Biotechnology Entrepreneurship
- Biomaterials and Biocompatibility
- Introduction to Tissue Engineering
- Musculoskeletal Biomechanics

Research Laboratories & Centers

- Engineering Research Center for Revolutionizing Metallic Biomaterials (ERC-RMB)
- Regenerative Tissue Engineering Laboratory
- Cell and Tissue Culture Laboratory
- Microfluidics and Biosensor Laboratory
- Biomaterials Laboratory
- Biomechanics Laboratory
- Computational Simulation Laboratory
- Biometal and Biocorrosion Laboratory
- Capstone Design Laboratories



Sample Bioengineering Faculty Research Areas & Projects

- Micro-physiological organ systems
- Immune-engineering materials and devices
- Finite element analysis of the human musculoskeletal system and orthopaedic devices
- Material testing of joints, bones, and soft tissues
- Human motion analysis
- Polymeric biomaterials for tissue regeneration and implants
- Nanomaterials and microbeads for imaging and therapeutics
- Cardiovascular bioreactor for regenerative medicine
- Microfluidic sensors and devices

Funding

Faculty members in the Bioengineering Program have several research projects funded by NSF, NIH, and many DOD agencies. In addition to tuition remission, students may receive teaching and research assistantships. A limited number of fellowships are also available. Financial aid is based on merit and availability of funds.

North Carolina Agricultural and Technical State University
THE GRADUATE COLLEGE
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<https://graduateadmissions.ncat.edu>



NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY THE GRADUATE COLLEGE

OUR RESEARCH STRENGTHS

- Aerospace and Transportation Systems
- Biomedical Research
- Biotechnology & Biosciences
- Computer and Computational Sciences
- Defense and National Security
- Energy and the Environment
- Food Science
- Human Health, Nutrition and Wellness
- Leadership and Community Development
- Nanotechnology and Multi-Scale
- Social and Behavioral Sciences
- Transportation and Logistics

AGGIE POINTS OF PRIDE

- Ranked by the Carnegie Classification of Institutions of Higher Education as “doctoral/research university”
- Ranked third within the UNC System in research funding, with over \$56 million in sponsored programs and nearly \$7 million in appropriations for agricultural research and cooperative extension
- Received the National Science Foundation’s prestigious Engineering Research Center (ERC) grant for biomedical engineering and nano-bio applications research totaling more than \$18 million over five years
- Received a National Science Foundation’s Math S-STEM Program in Mathematics grant
- The National Council on Teacher Quality (NCTQ) preparation programs among the top in the state
- North Carolina A&T graduates students in STEM disciplines at nearly twice the rate of the UNC system average
- The Triangle Business Journal has reported that North Carolina A&T State University ranks No. 1 among historically black colleges and universities in North Carolina and No. 4 in the UNC System for the highest return on investment of colleges and universities

ADMISSIONS REQUIREMENTS and DEADLINES

ADMISSION REQUIREMENTS

- Online application
- Application fee
- Transcripts
- Personal statement
- Recommendation letters

* Some programs require standardized test scores and/or on campus interviews

IMPORTANT APPLICATION DEADLINES

	Priority	US Citizen	International
Fall	February 1	July 1	June 1
Spring	September 1	November 1	October 1
Summer	NA	April 1	NA

Earlier deadlines for certain programs apply. Check www.ncat.edu/tgc and click Graduate Admissions–Admission Application Requirements and Instructions.

FINANCING GRADUATE STUDIES

For detailed information on tuition, fees, and related costs of education, assistantships, fellowships, and other financial assistance visit www.ncat.edu/tgc and click Financial Information.

CONTACT INFO

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