



# MASTER OF SCIENCE & DOCTOR OF PHILOSOPHY IN INDUSTRIAL AND SYSTEMS ENGINEERING

## Program Overview

The graduate programs in the [Department of Industrial and Systems Engineering](#) are fully accredited by the Southern Association of Colleges and Schools (SACS). Our department remains the top producer of African-American industrial and systems engineers at the doctoral level. The graduate program has established a strong academic reputation in the industrial and systems engineering professional community and is ranked by U.S. News and World Report. Our department has a diverse population of students, faculty and staff.

Graduate Degree programs – Master of Science (MS) and Doctor of Philosophy (PhD) in Industrial and Systems Engineering.

## For More Information

Please Contact:  
Graduate Program Director,  
Dr. Younho Seong  
[yseong@ncat.edu](mailto:yseong@ncat.edu)

## Program Concentrations

**1. Human-Machine Systems Engineering (HMSE):** This area is concerned with human-computer interface (HCI), cognitive systems engineering, human-machine interaction, brain-computer interface and occupational biomechanics. The HMSE research and educational programs are a combination of social sciences and engineering. There is a strong emphasis on quantitative methods and computer modeling.

**2. Manufacturing and Service Enterprise Engineering (MSEE):** This area is concerned with the design and improvement of manufacturing, service, and supply chain enterprises. MSEE focuses on the engineering of complex organizational and logistics systems, which is a rapidly growing area in the global economy. This area of study requires process understanding as well as an understanding of the application of technical skills, including the use of qualitative and computational models and tools.

**3. Operations Research and Systems Analysis (ORSA):** This area is concerned with optimization tools and information systems. Students learn to analyze and propose solutions for general and specific optimization problems. Students may develop abilities in the design of information systems.



## Research Areas

- Advanced manufacturing processes
- Human-Machine Systems
- Ergonomics and Biomechanics
- Homeland and Cyber Security
- Logistic and Supply Chain Management
- Healthcare Systems and Systems Safety
- Service Systems
- Energy and Sustainability
- Optimization
- Production and Manufacturing
- Engineering Education

## Funding

Students may receive teaching and research assistantships. A limited number of fellowships are also available. Financial support is based on merit and availability of funds.

## Why Choose ISE at NC A&T?

- Job growth is predicted to be the 2nd highest among engineering disciplines (U.S. Dept. of Labor)
- Excellent placement record
- Interdisciplinary by nature
- Financial support available
- Conduct cutting-edge research in diverse topical areas
- Receive multiple job offers prior to graduation
- Receive a salary above the average for engineers

North Carolina Agricultural and Technical State University  
**THE GRADUATE COLLEGE**  
grad@ncat.edu • 336-285-2366  
<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](http://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](http://www.ncat.edu/tgc) and click Financial Information.

## CONTACT INFO

THE GRADUATE COLLEGE  
GRAD@NCAT.EDU  
336-285-2366

OFFICE OF STUDENT FINANCIAL AID  
FINAID@NCAT.EDU  
(336) 334-7973



[www.facebook.com/GradNCAT](http://www.facebook.com/GradNCAT)



@gradncat

