# TENNESSEE STATE UNIVERSITY

COLLEGE OF ENGINEERING INDUSTRIAL PARTNERSHIP



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THE
LEGACY

Excellence is our Habit!

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# THE COLLEGE OF ENGINEERING

The College of Engineering (COE) at Tennessee State University (TSU) has been offering a high-quality education in engineering, technology, and computer science for over 50 years. The college serves approximately 1000 undergraduate and graduate students. Recognized as the 2017 "Best STEM Program" by the HBCU Digest.

The college's vision, mission, and partnership goals guide the yearly plans of the College of Engineering.

#### **VISION**

To be a premier college for engineering, computer science, and technology that promotes innovation in instruction, research, and service.

#### **MISSION**

The College of Engineering strives to educate and inspire every student to think critically, engage in lifelong learning, and contribute to advancing the profession and community.

#### PARTNERSHIP STRATEGIC PRIORITIES

- 1. Establish a yearly scholarship fund of one million dollars.
- 2. Attract quality students by offering more full scholarships.
- 3. Seek out high-performing students from all fields and levels of higher education.
- 4. Enhance the college's reputation in the industry by fostering more engagement, internships, and job opportunities.
- 5. Provide students with an engaging and competitive learning experience by ensuring access to modern and well-equipped labs and technology, experienced and qualified instructors, comfortable learning spaces, and sufficient academic support such as tutoring, mentorship, and guidance.
- 6. Assist faculty and students in their technical and professional growth by organizing and supporting workshops, training, and conference attendance.
- 7. Boost student involvement and visibility by creating and supporting active student organizations and groups participating in design contests.
- 8. Increase the awareness of the College of Engineering, its students, faculty, and industry partners in the local and national community.
- 9. Promote faculty research output by funding undergraduate and graduate students, research projects, partnerships, and using industry adjuncts to reduce teaching load and bring practical applications to the classroom.

# **NEW ENGINEERING BUILDING**

Tennessee State University is taking a step toward a future-ready campus with a new, nearly 70,000-square-foot engineering building. Approved by the Tennessee State Building Commission on August 15, 2025, the \$60 million facility will serve as a hub for innovation, collaboration, and cutting-edge research, while reflecting TSU's commitment to sustainability, workforce development, and leadership among university engineering programs. The project will consolidate engineering programs and the Applied & Industrial Technology program into one modern, interdisciplinary complex designed to foster collaboration across all academic levels. Construction is expected to begin later this year, with completion slated for summer 2027.

"The new building is a substantial investment in the College of Engineering," said Dr. Lin Li, Dean of the College of Engineering. "Over the years, our college has experienced significant growth in students, faculty, research, and academic programs. This facility will provide a world-class space that enhances interdisciplinary collaboration across six undergraduate programs, three master's programs, and one Ph.D. program. It will also host innovative engineering activities that directly benefit the metro Nashville area and Middle Tennessee."







# COLLEGE DEPARTMENTS

The COE's five departments work closely with industry partners to provide career opportunities for students, collaborate on directed research initiatives, and ensure that the departments' educational curriculum and research missions are aligned with the needs of industry. Partners are eligible for Department Industry Advisory Boards which meet with the department once a year during the Annual Industry Partnership Cluster in May.

#### **College of Engineering Departments**

- Department of Applied and Industrial Technologies
- Department of Civil and Architectural Engineering
- Department of Computer Science
- Department of Electrical and Computer Engineering
- Department of Mechanical and Manufacturing Engineering





The TIGER Institute is a graduate-level research facility for the College of Engineering at Tennessee State University. Its goal is to help faculty, staff and students conduct research in areas of national STEM workforce needs as advocated by the National Academy of Engineering. Industry partnerships have included the National Science Foundation, Department of Homeland Security, the U.S. Air Force, Boeing and General Motors. The facility's current focus resides in the areas of science visualization and computation, cybersecurity, smart sensor networking, nano-materials and advanced energy systems.

# **ENGINEERING PROGRAMS & STUDENT COST**

TSU College of Engineering offers scholarships for undergraduates and fellowships for graduates to uphold its academic excellence, foster diversity, and give access to anyone who wants to major in engineering, technology, and computer science. Donors can support the school's students by allocating scholarship funds, which help them concentrate on their studies and engage in extra skill development and industry-related activities. Scholarships and fellowships can be given based on financial need, academic merit, field of study, or any other criteria.

The cost of tuition, fees, and room and board for students shows the importance of Scholarships and Fellowships. Many students in the College of Engineering at TSU come from other states, which increases their financial burden. The College of Engineering Scholarship Goal aims to provide more full-ride scholarships to undergraduate and graduate students.

- Undergraduate: in-state \$14,000/year, tuition/fees and room/board
- Undergraduate: out-of-state \$27,000/year, tuition/fees and room/board
- Master Graduate Students: \$24,000+/year stipend and \$12,500/year tuition
- Doctoral Graduate Students: \$30,000+/year stipend and \$12,500/year tuition

TSU is designated as a R2 Institution
"Doctoral University- High Research
Activity" by the Carnegie Classification
of Institutions of Higher Education.

## **Undergraduate Programs**

Applied and Industrial Technology
Mechatronics I Aviation Management I Flight
Architectural Engineering
Minor in Construction Management
Civil Engineering
Minor in Mining Engineering
Electrical and Computer Engineering
Mechanical and Manufacturing Engineering
Computer Science

Minor in Computer Science



#### **Graduate Programs**

Master of Science in Engineering
Biomedical | Civil | Electrical |
Environmental | Manufacturing | Mechanical
Master of Science in Computer Science
Bioinformatics | Cybersecurity | Data
Science

Master of Science in Data Science (online)
Doctor of Philosophy in Engineering &
Computational Sciences

Computational Sciences | Engineering Systems

# **INDUSTRY PARTNERSHIP PROGRAM**

The Industry Partnership Program (IPP) is a program of the COE that connects industry partners with the vision, mission, and strategic priorities of the college. It allows them to hire skilled students, work with faculty and departments, influence the engineering profession, and promote their brand with one of the best HBCU engineering colleges in the nation.

By collaborating with specific engineering departments, supporting student organizations, and joining college-wide programs and initiatives, industry partners can build strong relationships with students, the college, and the community.



# ANNUAL INDUSTRY PARTNERSHIP CLUSTER

All companies that participate or are interested in a partnership opportunity will be invited to attend the Annual Partnership Cluster in mid-April.

#### Day 1 Agenda:

- Breakfast | 9:00am
- Student Presentations | 10:00am-12:00pm
  - Capstone Design and Research Presentations
- Lunch | 12:00pm-1:00pm
- Student Presentations | 1:00pm-4:00pm
  - Capstone Design and Research Presentations
- Dean's Reception | 4:00pm-6:00pm
  - o Industry Partners, Student Presenters, and Faculty

#### Day 2 Agenda:

- Breakfast | 9:00am
- Annual Industry Partnership Meeting | 10:00am-11:00am
  - o College Partnership Report & Plans for next academic year.
- Advisory Board Meetings | 11:00am-12:00pm
  - Opportunities for industries to discuss initiatives with respective departments.
- Annual College Awards Luncheon | 12:00pm-2:00pm



# PARTNERSHIP OPPORTUNITIES

The College of Engineering has identified the following partnership opportunities. Please contact the development team for more details about any event listed below. Contact information is at the end of the package.

#### 1. Scholarship Donations (minimum \$500)

- o Industry Scholarship Fund Student selection criteria determined by the industry donor
- College of Engineering Scholarship Fund-(*PREFERRED*) Student selection criteria determined by the College of Engineering.

#### 2. Workshops, Informational, Lunch and Learn Sessions, Miscellaneous (\$250\*):

- These events are 60 minutes without or 1.5 hours with food.
- Companies can bring or cater food through the university.
- With the college, departments, or student organizations
- Can be company recruitment, technical development, or professional development

#### 3. Company Takeover Day (\$1500 per day\*)

 Companies can hold events on campus during a day (i.e. Networking Event, Cookout, Professional Development Sessions, etc.) Companies are responsible for cost associated with food and university services.

#### 4. Tabletop Day (\$250 for half day, \$500 for a full day\*)

- Must be scheduled two weeks in advance.
- The COE will only set up a table and chairs in either the Engineering Building, the Computer Science building, or the Applied and Industrial Technology building. The company brings all other components and determines their time at the table.
- Half day is considered 4 hours or less; Full is anything greater than 4 hours, but less than 8 hours.

#### 5. Fall College of Engineering Career Fairs (\$1000\*):

Companies are limited to 4 representatives.

#### 6. College of Engineering Semester Networking Event (\$250 per industry representative\*)

- Includes College of Engineering faculty, staff, students, and industry
- Located on or off campus, informal, social/networking event in the evening.
- Payments is required 2 weeks prior to event.

#### 7. National Engineers Week Activity Sponsorship (\$250/per activity\*):

- Week of activities are hosted by student organizations to celebrate the technical/professional skills and education related to engineering, computer science, and technology.
- Sponsorship activities include (for example):
  - Student Organization Social Activity
  - Professional/Educational Development

#### 8. <u>Laboratory, Equipment & Space Naming Donation</u>

Contact the development team for more information.

#### 9. Student Internships

• The value of this opportunity is determined by the internship salary.

#### 10. Funded Research

Faculty and Undergraduate and/or Graduate

(\*This fee may be waived based upon the amount of scholarships contribution. All fees collected support the College of Engineering Scholarship Fund.)

# STUDENT ORGANIZATIONS

The student-led organizations at TSU Engineering are hubs where many of the college's most capable, spirited, and entrepreneurial students volunteer their time and energy. These organizations provide students with hands-on design opportunities, peer tutoring, mentorship, professional and skill development, industry exposure, and access to national conferences. They also encourage participation in national and international competitions to develop new skills and engage in the broader engineering world. The COE welcomes companies to connect and support the activities of student organizations. The college asks all companies to include organization advisors in all communication with students so that proper chains of command are maintained, and the advisor can make sure to assist the students in planning activities.

# **Society of Women Engineers (SWE)**



For more information, contact advisor Mr. Davenport, @ddaventp@tnstate.edu

The Society of Women Engineers (SWE) "is a not-for-profit educational and service organization that empowers women to succeed and advance in engineering and be recognized for their life-changing contributions as engineers and leaders." This is done through an array of training and leadership development programs, networking opportunities, scholarships, outreach, and advocacy activities.

# National Society of Black Engineers (NSBE)



For more information, contact advisors
Mr. Davenport, @ddaventp@tnstate.edu
or

Dr. Amber Spears, aspears7@tnstate.edu

The National Society of Black Engineers (NSBE) is the largest non-profit, student-run organization in the US. NSBE has developed into a powerful influence in the lives of minority engineering students, motivating them to consistently pursue excellence in all facets of their lives. "To increase the number of culturally responsible Black engineers who excel academically, succeed professionally, and positively impact the community" is the organization's mission.

# STUDENT ORGANIZATIONS

# **Architectural Engineering Institute (AEI)**



For more information, contact advisor Mr. Davenport, @ddaventp@tnstate.edu

The Architectural Engineering Institute (AEI) was established in 1998 and is the premier organization for architectural engineering. Architectural Engineering is defined as the application of engineering principles and technology to building design and construct. Architectural Engineers work together with architects and civil engineers but are unique in both their skills and role as part of the building design team. As an organization, AEI provides its members with timely technical information, professional advocacy, continuing education, and opportunities to excel in their careers.

## The Institute of Electrical and Electronics Engineers (IEEE)





For more information, contact advisor Dr. Ghosh, sghosh1@tnstate.edu

The Institute of Electrical and Electronics Engineers (IEEE) is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. IEEE's core purpose is to foster technological innovation and will be essential to the global technical community in improving global conditions. IEEE sponsors over 2,000 annual conferences and events worldwide, curating cutting-edge content for all of the technical fields of interest within IEEE.

# **American Society of Mechanical Engineers (ASME)**



For more information, contact advisors
Dr. Fasoro, afasoro@tnstate.edu
or
Dr. Akbar, makbar@tnstate.edu

The American Society of Mechanical Engineers (ASME) is a not-for-profit membership organization that enables collaboration, knowledge sharing, and skills development across all engineering disciplines. ASME codes and standards, publications, conferences, continuing education, and professional development programs provide a foundation for advancing technical knowledge and a safer world.

# STUDENT ORGANIZATIONS

# **Construction Management Association of America (CMAA)**



For more information, contact advisor Professor Du, kdu@tnstate.edu

The Construction Management Association of America (CMAA) is delivery method neutral; seeking to ensure that all professionals are prepared to succeed regardless of the scope, scale, or complexity of any project or program. CMAA is the leading society for accreditation of professional degree programs in construction management by ABET. Working through ABET, CMAA can make a significant contribution to developing a qualified, professional workforce.

# <u>American Society of Heating, Refrigerating and Air-Conditioning</u> <u>Engineers (ASHRAE)</u>



For more information, contact advisor Dr. Wang, zwang@tnstate.edu

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is a global society advancing human well-being through sustainable technology for the built environment. The Society and its members focus on building systems, energy efficiency, indoor air quality and sustainability within the industry.

# <u>Association for Computing and Machinery (ACM)</u>



For more information, contact advisor Dr. Rogers, trogers3@tnstate.edu

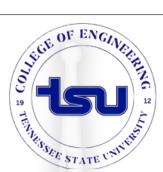
The Association for Computing and Machinery, known as ACM, is an organization dedicated to bringing the best minds working in computer science and machinery together. ACM currently boasts 100,000 individuals from all over the world. Active in both research and public policy issues, this association is a membership that all professionals in computer science strive for.

# **American Society of Civil Engineers (ASCE)**



For more information, contact advisor Dr. Ranganathan, raparthas@tnstate.edu

The American Society of Civil Engineers (ASCE) stands at the forefront of a profession that plans, designs, constructs, and operates society's economic and social engine – the built environment – while protecting and restoring the natural environment. The Society advances civil engineering technical specialties through nine dynamic institutes and leads with its many professional- and public-focused programs.



#### **ABOUT TENNESSEE STATE UNIVERSITY**

Tennessee State University (TSU) is a comprehensive, urban, coeducational land-grant university, founded in 1912. The 500-acre campus is in Nashville, the state capital of Tennessee. TSU has nine academic colleges and schools and offers 83 comprehensive degree programs from the baccalaureate through doctorate degrees. It has been designated as an "R2 Doctoral/Research University" by the Carnegie Foundation.

The College of Engineering has EAC ABET-accredited undergraduate programs in Architectural, Civil, Electrical, and Mechanical Engineering, as well as CAC ABET-accredited program in Computer Science, ATMAE-accredited program in Applied & Industrial Technologies. The college hosts an M.S. in Computer Science, an M.S. in Data Science, a Master of Science in Engineering, and a Ph.D. in Engineering & Computational Sciences. The college has a TIGER institute to focus on interdisciplinary graduate engineering research in advanced materials, clean energy, and AI.

Tennessee State University
3500 John A. Merritt Boulevard, Nashville, TN 37209-1561
Tel. No. 615-963-5401
http://www.tnstate.edu/engineering/

If you are interested in making a lasting impact on the College of Engineering through funding of scholarships, technology, design labs, in-kind donations, or any other high impact contribution, we are happy to discuss this with you further.

#### **CONTACTS**

Dr. Lin Li, Interim Dean Ili1@tnstate.edu

Dr. Charles McCurry, Interim Associate Dean cmccurry@tnstate.edu

Mr. Christopher Shannon, MBA, Director of Finance cshannon2@tnstate.edu

Mr. Dre Davenport, Coordinator of Recruitment and Student Services ddaventp@tnstate.edu





engineering@tnstate.edu