ELECTRICAL AND COMPUTER ENGINEERING

MAJOR MAP

Tennessee State University

WHO WE ARE

The BSEE program is designed to provide the student with abroad-based background in Electrical and computer Engineering that systematically builds upon the knowledge gained in basic sciences and mathematics, through engineering sciences to design and analyze electrical and computer engineering systems, and subsystems culminating into a major design experience in a two-semester sequence capstone design project course.



CAREER OUTCOMES:

- Electrical Engineer
- Computer Engineer
- Power Systems Design and Development Engineer
- Design of Embedded Systems
- Cyber Security Engineer for Cyber-Physical Systems
- Develop AI/ML learning technology for Engineering Systems.

AREAS OF STUDY:

- Electrical Engineering, Electric Power and Renewable Energy Engineering.
- Computer Engineering concentration.
- Cyber-Physical Systems (CPS) concentration with focus on AI and Machine Leaning and Cybersecurity.


What skills will students learn throughout this program?

- Design and develop Electrical Engineering Systems.
- Design and develop Computer Engineering systems.
- Develop solutions to secure Cyber Physical Systems (CPS) from cyber attaches.
- Use modern tools such as AI/ML in solving complex engineering problems.
- Work in teams and engineering groups.
- Effectively Present and communicate technical knowledge to the public.
- Understand the impact of engineering decisions on the safety of the society and the environment.
- Organize and lead a team of technical and professional engineers.
- Recognize the impact of engineering solutions on the local and global economy.

WHAT SKILLS ARE YOUR FUTURE EMPLOYERS LOOKING FOR?

- Hardware Design
- Software Development
- Signal Processing
- Programming Skills
- Problem-Solving and Critical Thinking
- Communication Skills
- Teamwork and Collaboration
- Risk Analysis
- Project Management
- Continuous Learning
- Industry-Specific Knowledge
- Leadership Qualities


For more information, click here
https://www.tnstate.edu/ece

Undergraduate Experiential Major Map: Electrical and Computer Engineering

TENNESSEE STATE UNIVERSITY

Think

Engaging in critical thinking and inquiry inside the classroom.

Work

Pursue experiences that will allow you to grow as a leader and professional.

Serve

Explore opportunities to contribute to the broader community and global marketplace.

First Year/Freshman

- Complete your Handshake Profile.
- Complete your four-year educational plan in UNIV 1000 during the fall semester.
- Focus on your studies and earn good grades.
- Visit the **Office of Student Success** (OSS) and connect with your advisor for help navigating college life and your classes. Make an appointment using the student planner app and view the OSS page for other hours and services.
- First Generation students connect with your **First Generational Specialist**.
- Get to know professors. The best time to connect outside of class is during their office hours.
- Visit the **Academic Achievement and Retention Center** for access to study tips, connecting to academic coaches, tutoring, and other helpful resources.
- Attend the Career Fair (Sponsored by the **Career Development Center**)
- Get involved - Attend organizational fairs, special/corporate events, and volunteer on and off campus.

Sophomore & Junior

- Update your resume and remove high school activities. Have it critiqued by the **Career Development Center**.
- Review and update LinkedIn and Handshake profiles.
- Attend the Career Fair (Sponsored by the **Career Development Center**)
- Explore graduate school options.
- Begin preparing for GRE, LSAT, MCAT, GMAT, and other exams for graduate school admissions. (Not applicable)
- Begin building your professional wardrobe.
- Meet with your **departmental academic advisor** to confirm degree progress and discuss your future academic and career goals.
- Attend institutional and departmental internship workshops.

Senior

- Meet with your **departmental academic advisor** to confirm degree progress and discuss your future academic and career goals.
- Apply for **Graduate and Professional School** or jobs that fit your interests, skills, and career goals. Follow up on applications and keep a record of the status of each.
  **pay attention to due dates*
- Draft a cover letter that can be adapted for a variety of employers. Have it critiqued.
- Complete the Senior Exit Exam and First Destination Survey. (**Testing Center**)

Academic Success Checklist

- ❑ Book an appointment with your academic advisor for pre-registration and advising.
- ❑ Discover library resources.
- ❑ Visit the math, reading, writing, and tutoring center.
- ❑ Complete FAFSA and academic scholarship applications.

Educational Planning Checklist

- ❑ Ask your academic advisor about High Impact Practices
- ❑ Participate in at least two High Impact Practices at TSU
- ❑ Join a student group.

Career Development Checklist

- ❑ Create your HandShake Profile.
- ❑ Visit **What Can I Do With This Major**
- ❑ Attend the career fair to expand your network.
- ❑ Attend Academic Department workshops and seminars.
- ❑ Visit the **Academic Pathways & Partnerships**