

The Strategic Plan for the College of Engineering at Tennessee Tech University is our vision and path forward for our future. Specifically, our vision is to be "***A leading intellectual Engineering resource pushing frontiers of innovation through technology, research, and education***". It is the result of carefully analyzing our current strengths, weaknesses, threats and opportunities. We considered and utilized hundreds of comments received from interviewing and surveying students, alumni, business and industry members, university partners, and staff.

We ASPIRE to GREATNESS. We realize that an Engineering, computer science, and industrial technology education must focus on fundamentals and provide the foundation for life-long learning as one's interests or needs change. Most of our graduates change their area of specialty at least once in their career. It would be a disservice to educate students as if they will pursue a career in just one field because some will never enter the field of their degree and others will leave it. Therefore, to prepare students for a long career, ***an undergraduate and graduate education should consider a broad-based three-dimensional education model integrating transformative learning experiences.***

This ***broad-based three-dimensional education model*** focuses on three core competences: technical, professional, and global. These support our mission of "***Graduating innovative engineers capable of solving technological and societal challenges.***" Technical competence has always been part of the College of Engineering education. *Technical competence* could include fundamentals, analysis, design, innovation, and case studies of successes and failures. Professional competence was introduced in the 1980s into engineering programs to graduate more well-rounded individuals. *Professional competence* applies to all college programs and could include entrepreneurship, interdisciplinary teamwork, work ethic, strategic thinking, leadership, communications, and life-long learning. *Global competence* applies to all college programs and could include working in grand challenges, language skills, multicultural environments, product platforms, or outsourcing.

Throughout my career, I have observed that students broaden and deepen their intellectual and worldviews through a transformative learning experience. A ***transformative learning experience*** is a learning opportunity in or outside the classroom that enriches student learning and personal development. Transformative learning experiences could include experimental learning, project-based learning, research experience, industrial project, student competition, domestic and global cooperative education, global project, study abroad, K-12 outreach, service-learning, learning community, personal passion, and applying technology to an interdisciplinary problem in society.

Kind regards,

Joe

ENGINEERING EDUCATION

INTEGRATIVE UNDERGRADUATE AND GRADUATE 3-D EDUCATION

TECHNOLOGY

Technical Competence
Fundamentals Analysis*
Design* Innovation*
Program Specific

INNOVATION



Global Competence
Grand Challenges Outsourcing*
Language* Product platforms*
Multicultural Environments*
All Programs

Professional Competence
Leadership Interdisciplinary
Teamwork* Strategic Thinking*
Lifelong Learning* Communications*
Ethics* Entrepreneurship*
All Programs

RESEARCH

Draft Vision

**A leading intellectual engineering resource
pushing frontiers of innovation through
technology, research, and education**

Draft Mission

**We graduate innovative engineers
capable of solving technological and societal challenges.**

Core Values

We promise we will:

- ❖ **Aspire to Greatness in all we do, through
Technical, Professional, Global Competencies and always:**
 - **S**tudents First
 - **P**rofessional Practices
 - **I**mprovement Continuously using Creativity and Innovation
 - **R**ecognition, Respect, and Rewards
 - **E**xcellence in Education and Scholarship through Team Work