



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

EXECUTIVE COMMITTEE	
Friday, January 20, 2023	
9:00 a.m. EST/8:00 a.m. CST	Virtual/Knoxville, TN

AGENDA

Public Session

- I. Call to Order and Roll Call
- II. Remarks of the Chairperson
- III. President's Update
 - A. [2022 Objectives and Results](#) Tab 1
- IV. [Letters of Notification](#) – Action/Roll Call Vote Tab 2
 - A. [Master of Management Program, UTC](#) Tab 2.1
 - B. [Bachelor of Science in Environmental Engineering, UTK](#) Tab 2.2
 - C. [Doctor of Philosophy in Agriculture Leadership, Education, and Communication, UTK/UTIA](#) Tab 2.3
- V. Planning for Winter Board Meeting – Discussion
- VI. [Consent Agenda](#) – Action/Roll Call Vote Tab 3
 - A. [Minutes of the Last Meeting](#) Tab 3.1
 - B. [2023 Board Meeting Calendar](#) Tab 3.2
- VII. Other Business

[Note: Under the Bylaws, items not appearing on the agenda may be considered only upon an affirmative vote representing a majority of the total voting membership of the Executive Committee. Other business necessary to come before the Executive Committee at this meeting should be brought to the Chair or Board Secretary's attention before the meeting.]
- VIII. Closing Remarks
- IX. Adjournment



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

Nonpublic, Executive Session

Following the public session, the Committee will convene in a nonpublic, executive session pursuant to Tennessee Code Annotated § 4-35-108 to discuss items designated as confidential or privileged and not subject to public inspection under § 10-7-504.



THE UNIVERSITY OF
TENNESSEE
SYSTEM

2022 OBJECTIVES AND RESULTS

ENHANCING EDUCATIONAL EXCELLENCE

GROW AND ENRICH UT PROMISE

Increase year-to-year retention of current recipients by 10%; increase the number of eligible students at UT who are receiving UT Promise by 10% and increase the number of eligible student applications by 25%.



RESULTS:

This year President Boyd, Chancellors and members of the Academic Affairs and Student Success and Communications and Marketing traveled 3,733 miles in eight days to speak with high school juniors and seniors at 26 Tennessee high schools to raise awareness about the UT Promise program, the importance of college-going and the affordability of a UT degree.

The number of UT Promise students held steady in Fall 2022, with 1,037 students receiving the critical last-dollar scholarship. In the Fall 2021, 1,044 UT students participated in the program. 2022 did have a significant growth in applications, with a total of 8,878 eligible students applying to participate in the program, representing an 11% increase from 2021, when the program saw 8,004 applications. UT Promise students have logged more than 40,000 hours of community service since the program's inception.

LAUNCH UT ONLINE CONSORTIUM*

Launch the UT Online Consortium (an online course sharing platform for UT campuses) pilot in 2022 in preparation for a full launch in 2023; 10 new courses will be offered in 2022, and 40 new courses in 2023.



To facilitate future growth of the UT Online Consortium, the UT System will lead a collaborative effort to align components of academic infrastructure to more effectively serve online learners systemwide.

**Metrics established previously in collaboration with UT campuses.*

RESULTS:

In Fall 2022, UT System launched the UT Online Consortium pilot. The five-course offerings included Philosophy 300 at UT Martin, Spanish 111 and 211 at UT Knoxville, and History 1110 and 2030 at UT Chattanooga. Students can learn more about future opportunities at utonline.tennessee.edu.

COORDINATE UNDERGRADUATE ADMISSIONS ACROSS THE UT SYSTEM*

Develop a process that would allow undergraduate applicants to be considered for more than one UT campus during the undergraduate admissions process. Applicants denied at one campus would be presented with an option to enroll and matriculate at another campus within the UT System.

**Based on recommendations from the annual CAO-CSAO Annual Summit.*

RESULTS:

With the support of campus chancellors, undergraduate nursing programs across the UT System met during the academic year to develop a pilot initiative that would allow prospective students to apply via a common application and receive a single letter of admissions, notifying them of their enrollment options across the UT System. Campus leaders hope to learn from this pilot and explore opportunities to expand coordination in future years. The initiative is currently paused as deans and campus leaders work through admission process complexities.

ENHANCING EDUCATIONAL EXCELLENCE

DEVELOP SYSTEMWIDE COMMON ACADEMIC DATA DEFINITIONS

In preparation for implementing a common systemwide student information system (SIS), we will develop common systemwide academic data definitions.

RESULTS:

To lay the groundwork for common academic data definitions, the UT System Institutional Effectiveness (IE) team and its campus counterparts have taken several proactive steps. First, the IE team expanded the set of academic and demographic data it collects from each UT campus on enrolled students for reporting and analyses—well beyond the core set of roughly 100 data points that are collected each term and shared with THEC.

Additionally, while each UT campus currently has its own student information system with unique structures and data definitions, there has been an effort to better organize and maintain data across campuses. Most notably, the IE team has developed and documented a set of five student “data dictionaries” that provide detailed information for each data element across the campuses. Beyond these UT System data dictionaries, campus Institutional Research counterparts meet regularly to monitor data and ensure that standardization, validity and integrity exists across the reporting spectrum.

In October 2022, the UT Board of Trustees approved the Student Information System Guiding Principles to frame the upcoming process as the UT System explores and then works to deliver a single, systemwide SIS. The comprehensive principles—covering governance, student-centeredness, transparency, resources, business process redesign, standardization, reporting and technology integration—will be vital as UT undertakes, arguably, one of its most complex and consequential systemwide implementations.

EXPAND UT'S EDUCATIONAL FOOTPRINT*

The UT System added academic programs and units during the 2022 calendar year. This included six new academic programs, six program modifications and one new academic unit.

New Academic Programs

- Bachelor of Science in Public Health, UT Knoxville
- Bachelor of Science in Construction Management, UT Martin
- Master of Health Science in Pathologist Assistant Studies, UT Health Science Center
- Bachelor of Applied Science in Information Technology-Cybersecurity, UT Chattanooga
- Bachelor of Science in Business Administration—International Business, UT Knoxville
- Master of Science in Marketing, UT Knoxville

Academic Program Modification

- Master of Science in Engineering Management, UT Knoxville
- Bachelor of Science in Philosophy, UT Martin
- Bachelor of Arts in Physics, UT Knoxville
- Master of Science in Industrial-Organizational Psychology, UT Chattanooga
- Bachelor of Mass Media and Strategic Communications, UT Martin
- Bachelor of Arts in Fine Arts, UT Martin

New Academic Unit

- School of Natural Resources at UT Institute of Agriculture

Grow total enrollment by 2,000 learners systemwide; increase fall-to-fall retention of first-year undergraduates by .8%.

**Metrics determined as a per year increment of the 5-year goals outlined in the UT Systemwide Strategic Plan (Strategic Plan metrics developed in collaboration with UT campuses).*

RESULTS:

Total Enrollment: Total UT System enrollment grew by 2,049 learners or 3.8% from 53,983 in Fall 2021 to 56,032 in Fall 2022. This marks five years of steady enrollment growth beginning with 50,810 in Fall 2018 to 56,032 in Fall 2022—a 10.3% increase over five years. During that same five-year period, the UT System also saw out-of-state enrollment grow by 8.9%, new freshman enrollment increase by 20.8% and new graduate student enrollment increase by 10.4%.

Retention: UT System increased first-year retention by 1.2% in the last year, helping us exceed our goal. Overall, UT System retention has increased by 1.3% during the last five years, with male student retention up 2% and rural student retention up 2.7% during that time frame. Of special note, UT Southern increased its first-year retention by 11.8% in Fall 2022.

UT Southern: A key component of UT's Expanded Educational Footprint was the 2021 acquisition of UT Southern. In Fall 2022, total enrollment at UT Southern grew by 6.6%, with 934 students now calling the Pulaski campus home.

EXPANDING RESEARCH CAPABILITIES

IMPLEMENT NEW FEDERAL RESEARCH AND DEVELOPMENT (R&D) PROTECTIONS

Work with the campuses to review, develop and provide detailed strategies, guides and procedures to better align our R&D practices, including training and compliance, with emerging federal guidance implementing new research security requirements designed to strengthen and protect the nation's R&D enterprise.

RESULTS:

The UT System Office of Research and Office of General Counsel collaborated to develop a draft research security policy that addresses all areas of NSPM-33, providing procedures and guidance to safeguard R&D throughout the University system. Additionally, the Office of Audit & Compliance and general counsel are collaborating to establish a more robust research compliance function at the system level and broaden the partnership with campuses on issues of research compliance and security. Audit and compliance is actively recruiting a new executive director of institutional compliance. Once that position is filled, the new executive director will hire staff to focus specifically on research compliance.

We continued to provide input into the search for better automated solutions to vetting and review of export controls, conflicts of interest/outside activities, foreign travel to sensitive countries, international agreements/memorandums of understandings and potential insider threats. For example, an RFP was issued for a conflict of interest management software that will be available for use by all campuses and institutes. The RFP committee is currently reviewing proposals and vendor demonstrations with hopes to award the contract in 2023.

An insider threat program was also instituted, including an insider threat work group at UT Knoxville that meets quarterly. The work group brings together critical administrative areas such as human resources, legal, physical security, global engagement, Title IX office and select department Heads to discuss potential insider threats. In CY23, we plan to expand the program, possibly creating work groups at UT Health Science Center and UT Chattanooga.

ESTABLISH STATEWIDE TECHNOLOGY TRANSFER SUPPORT

Partner with the locally-governed institutions (LGI) institutions to develop and support their commercialization potential to encourage a truly statewide innovation economy in Tennessee.

RESULTS:

The UT Research Foundation met with all LGI counterparts/research offices and established a working agreement for shared management of intellectual property. The cost of implementation is about \$600,000 annually, which would support all six LGIs and establish a small maturation fund to support their technologies. Since funding is a challenge for most of the LGI partners, LaunchTN has included this as a request in its FY23 budget.

EXPANDING RESEARCH CAPABILITIES

CREATE A STATEWIDE MOBILITY INNOVATION COLLABORATIVE

In partnership with Tennessee Economic and Community Development, other universities and colleges, and industry stakeholders, UT will facilitate the development of a statewide mobility innovation collaborative that leverages all of Tennessee's research talent and workforce development resources. Working together, Tennessee can become a national leader and a natural magnet for mobility industries to locate not only the translation of today's technologies into products and services but also the development of mobility technologies for tomorrow.

RESULTS:

The UT System Office of Research, Outreach, and Economic Development pulled statewide stakeholders together and established a working group. As a result, UT, TVA, ORNL and Vanderbilt contracted with Guidehouse to develop a phased Tennessee Mobility Economic Future Market Recommendations Report that was delivered on Oct. 4, 2022. UT has led advocacy efforts with the state executive team to advance the initiative and a request for a seed state investment. Phase 2 work with the steering committee and Guidehouse currently is under way, and includes stakeholder re-engagement, data collection, alignment of resources and funding, and governance options.

ESTABLISH A NEW SYSTEMWIDE SEED FUNDING OPPORTUNITY

In partnership with the chief researchers, develop and launch a formal seed support program for up to \$1 million. The program will support the development of large, multi-investigator programs. The support for this new program will be from earned fees and other earned contract revenues.

RESULTS:

The chief research officers from across the system developed guidelines for a seed program that could be established systemwide.

FOSTERING OUTREACH AND ENGAGEMENT

SUPPORT UTHSC TO DEVELOP A STATEWIDE DENTAL HEALTH CLINIC NETWORK

Working with the Tennessee Department of Health and the UT Health Science Center (UTHSC) College of Dentistry, we will open up to six new dental clinics that will provide care for the indigent and low-income Tennessee residents and provide training opportunities for our students.

RESULTS:

Through the Healthy Smiles initiative, UTHSC will receive over \$51 million to increase the number of dental students from 110 to 130 per class and provide the additional faculty and facilities to accommodate them. These additional students in turn will help support three new clinics for D4 students in Kingsport, Crossville and Knoxville.

INCREASE SMART'S IMPACT ACROSS THE STATE

Transition the Substance Misuse and Addiction Resource of Tennessee (SMART) to the Institute of Public Service (IPS) to provide statewide assistance to mitigate the consequences of the opioid crisis and substance misuse in Tennessee. The transition will increase access to existing resources and expertise through the UT System and expand efforts by way of the already existing IPS and Extension relationships and connections. In addition, identify and pursue two new partnerships in this space with state agencies in 2022 to align UT expertise with state interests.



RESULTS:

SMART transitioned to under the Institute for Public Service in February 2022. A proposal for recurring funding of \$993,950 has been developed and submitted to the state for consideration for the FY23-24 state budget. The proposal has also been included as part of THEC's FY23-24 special initiatives request. Through SMART, Executive Director Jennifer Tourville has recently contracted with the Tennessee Department of Mental Health and Substance Abuse Services to grow collegiate recovery and mental health resources on our campuses and with the Tennessee Department of Health to expand the Medications for Opioid Use Disorder Mentoring Program, which was developed through a partnership with the UTHSC College of Pharmacy. SMART also hosted a regional summit for mayors and community leaders to discuss programs to implement using opioid settlement funds and has assembled a research team to explore opioid-related factors.

FOSTERING OUTREACH AND ENGAGEMENT

LAUNCH THE TENNESSEE GOVERNMENT PROFESSIONALS INSTITUTE (TGPI)

Through the Naifeh Center for Effective Leadership), in partnership with the state's Department of Human Resources, create the Tennessee Government Professionals Institute for 60 subject matter experts representing the state government agencies across Tennessee. This new leadership program will focus on the need for innovation, creativity and bold, unconventional initiatives to be executed by state experts. In addition, identifying these agencies' challenges will allow UT to better position itself in offering stronger partnerships and resources to help them overcome many of these contemporary challenges.

RESULTS:

The Inaugural Tennessee Government Professional Institute met February 6-11, 2022, in Knoxville and April 24-29, 2022, at UT Martin for two intensive weeks of professional development training. Sixty subject matter experts representing 22 state agencies received several professional development courses in: Integrity and Trust, Becoming Customer Centric, Teambuilding: Getting Better Together, The Opportunity for Conflict, The Power of Peer Relations, Results Orientation, DiSC assessments, Innovation, and Influence. For many years the Tennessee Department of Human Resources has partnered with the UT IPS Naifeh Center for Effective Leadership to provide training to supervisors in the Tennessee Government Management Institute and executives in the Tennessee Government Executive Institute. The inaugural institutes tapped into and invested in the vital resource of state employees working as individual contributors, highly productive and motivated employees without management titles. One employee stated that she had not received such quality training in her 18 years with the state and now understands herself and her peers more completely. As UT President Randy Boyd recently stated in a management institute forum, there is value in "empowering the front line." The professionals institute was created for this reason.

PRODUCE \$300 MILLION ECONOMIC IMPACT FOR THE STATE IN MANUFACTURING

Through the Center for Industrial Service (CIS), UT will provide technical assistance and training to 200 manufacturers across Tennessee, which will produce \$300 million in economic impact, including increased sales and improved efficiency, capital investment, and new and retained jobs. In addition, CIS will provide counseling to 600 small businesses in government contracting, helping them secure \$1.1 billion in new contracts and increasing jobs.

RESULTS:

During the first three-quarters of CY22, CIS has provided consulting and training services to 179 manufacturers and facilitated \$963,565 million in manufacturer economic impact. This includes increased sales, improved efficiency, capital investment, and new and retained jobs for CIS' customers. In addition, CIS has provided counseling to 800 small businesses in government contracting, helping them secure \$679,439 million in government contracts. CIS expects this number to significantly increase in the coming months as new contracts are reported by CIS customers.

ENSURING WORKFORCE AND ADMINISTRATIVE EXCELLENCE

SELECT NEW LEADER FOR THE UT INSTITUTE OF AGRICULTURE (UTIA)

In collaboration with UT Knoxville Chancellor Plowman, hire an outstanding leader for UTIA for the decade to come. Leadership matters, and nowhere is that truer than for the UTIA on which so many in our state depend. We will select a new senior vice chancellor and senior vice president early in the year.



RESULTS:

Carrie Castille joined UTIA as senior vice chancellor/senior vice president on July 1, 2022. She previously served as director of the National Institute of Food and Agriculture (NIFA). She was a senior leader in the United States Department of Agriculture (USDA) and the first woman to serve as NIFA director in a non-acting capacity. During her 14 months as NIFA director, 168 people were hired into or promoted from within the understaffed agency, employee satisfaction measures dramatically increased and the agency resumed its proper national leadership role in 4-H. Castille was appointed by the USDA secretary to the National Agriculture Research, Extension, Education, and Economics (NAREEE) advisory board from 2010 - 2017. During this time, she served as NAREEE Board chair and was a delegate to the Association of Public and Land-grant University's Council for Agriculture Research, Extension, and Teaching.

IMPROVE CAPITAL PROJECTS PROCESS

Participate with other state leaders in improving capital projects processes. UT, along with other public institutions to THEC to our colleagues in the Speaker of the House's offices and the State Building Commission, will find ways that maintain accountability while making the process more efficient.

RESULTS:

Legislation passed in 2022 to increase the major maintenance and leasing thresholds relative to the State Building Commission's authority and a measure passed to direct the Tennessee Higher Education Commission to comply with the commission's policy governing higher education capital projects. There have been ongoing conversations with the Speaker's offices and the commission to propose several policy changes to improve the capital projects process. It is anticipated that this will culminate in a legislative effort that will increase UT's ability to more nimbly and efficiently respond to capital needs of campuses and institutes.

IMPLEMENT PILOT CONSTRUCTION AUDIT PROCESS

Initiate a process by which a third-party consultant will conduct audits of construction billing and contract compliance by contractors and designers on designated capital projects. The goals are to ensure diligent stewardship of state and private funds and promote compliance with state requirements, contract requirements, best construction practices and internal controls. It is anticipated that increased efficiencies and cost savings may be recognized as the result of these audits. If the pilot project is successful, this would be the start of an ongoing audit program for construction projects.

RESULTS:

This pilot process has been initiated collaboratively among the Offices of Audit & Compliance, Facilities Planning, Chief Financial Officer and General Counsel. These offices have developed the scope of work to be conducted under these audits, and audit and compliance and general counsel have prepared an RFP to hire an external consultant to perform these audits. Also, facilities planning is working to identify two projects to be audited under this pilot program. We will be actively working towards selection of the external consultant by the end of 2022.

ENSURING WORKFORCE AND ADMINISTRATIVE EXCELLENCE

CONTINUE TO IMPROVE POLICYMAKING PROCESS

Launch the new system policy website and continue to work with the campuses to build an improved and streamlined process for creating system policies, campus procedures, and related guidance documents. This new policy process will include input from all campuses as the Policy Office reviews and revises system human resources, fiscal, general, and other policies to make them easier to comprehend. The Policy Office will also work with campuses to develop their own guidance on creating and tracking campus procedures.

RESULTS:

The Policy Office is up and running, and the new UT System Policy website (policy.tennessee.edu) launched in June 2022. The website includes links to all UTSA administrative policies (General, Fiscal, Health & Safety/Emergency Management, Human Resources, Information Technology, and Research) and all UT Board policies, plus newly drafted guidance documents regarding many policies; forms and templates for use in the policymaking process; and names of the responsible officials for each category of policies. Also listed are the members of various policy working committees, which meet regularly and include representatives from UTSA and each campus and institute (including faculty representation). The website also contains links to procedures from all campuses and institutes, the UT Bylaws, the Tennessee Code, the Rules and Regulations of UT, and all other State agencies and FAQs.

LAY FOUNDATION FOR ENTERPRISE RESOURCE PLANNING

Building upon the selection of Oracle as the new platform for the ERP system, select an implementation partner through a competitive process and begin official implementation on July 1, 2022. Build a culture that will effectively communicate the sweeping changes in all finance and human resource operations across the UT System through proactive change management. Create measurable outcomes that reduce risk, duplication and improve the security environment. Create a return on the investment by streamlining and automating workflow and increasing productivity. Maintain and adhere to a project budget and schedule.

RESULTS:

The project is well underway, and we have executed multiple contracts with Oracle and our implementation partner, Accenture. The teams have completed the draft chart of accounts, which is the foundation of the accounting system. The project planning, mobilization and kickoff are complete. We have established the governance processes, and the finance team has mobilized through-design workshops. The human resource team has begun defining the organization structure in advance of workshops. Change and business analysts engaged to identify areas that have the greatest change impact. Information will be used to inform change management communication, and training plans. The two-year project is on schedule and within budget. We have received the full \$50,000,000 of funding provided by the state.

ADVANCE STATEWIDE PROCUREMENT

Launch a website for the newly created Tennessee Consortium for University Procurement (TCUP), a collaboration with the LGIs. This will allow all Tennessee universities to take advantage of maximum volume pricing and shared contracts.

RESULTS:

The website is live at tncup.org. The website has been live since late September 2022. UT and the LGIs will now begin the process of uploading agreements and collaborating on procurement events, when appropriate, going forward. This website is the first platform for UT and the LGIs to post cooperative agreements in one place.

ENSURING WORKFORCE AND ADMINISTRATIVE EXCELLENCE

SUPPORT SMALL AND UNDERREPRESENTED BUSINESSES

Improve the University's spend with diversity business enterprises (DBEs), including small businesses and businesses owned by minorities, women, persons with disabilities and service-disabled veterans. UT System will promote communication about existing DBE contracts, get vendors eligible for DBE certification to pursue certification with the governor's office and promote bid opportunities with DBEs.

RESULTS:

We are able to track diversity spending with companies that are certified by the Tennessee Governor's Office of Diversity Business Enterprise. We ended FY22 with diversity spend of 10.28% of our overall expenditures. We are in the final stages of creating a diversity spend dashboard in collaboration with UT System Institutional Research that will highlight spending with and purchases orders awarded to diverse business enterprises. We have also begun to track second-tier diversity spending with UT Market Place suppliers. We will soon have enough data to create a dashboard of second-tier spending.

Employee and Organizational Development is helping digitize our Diversity in UT Procurement workshop so we can promote communications about existing DBE contracts to a larger audience. UT System Communications is assisting in promoting the digital workshop as soon as it is finished. We collaborated with GoDBE to conduct a virtual certification workshop in May. We facilitated the first in-person certification workshop in early December using the computer lab at the UTK Facilities Services Complex. The goal was to have 20 UT vendors certified by the end of the year as a result of the workshop.

Internally, we have created a more streamlined method for our small business liaison to have advanced notice of upcoming bids so she can research potential DBEs and assist buyers in reaching out to them. We are early into this new process and will begin tracking results in early 2023.

ENHANCE INFORMATION TECHNOLOGY (IT) SECURITY

Continue to enhance system administration risk management and information security practices to protect System IT resources and respond to regulatory and compliance mandates. To the degree possible, utilize technology and automation to prevent threats and mitigate risk in enterprise systems.

RESULTS:

We have, during the last two years, worked to strengthen our information security program/posture within UTSA to a level that far exceeds where we were in November 2020. This strengthening comes in many forms: adding new tools and technologies, addressing areas that had previously been identified in audit findings, adopting and implementing industry best practices, training and risk-based decision-making, etc. IT security is an ever-changing environment; therefore, the work involved is one of continuous monitoring and improvement. We have started a consultant-led project to implement a business continuity plan for key operations in the event of an IT security emergency.

INCREASE EMPLOYEE SATISFACTION/ENGAGEMENT

Building upon the 2021 employee engagement work, develop comprehensive strategies to increase employee satisfaction and engagement levels, which are reflected in ongoing engagement surveys.

RESULTS:

For the first time, the University of Tennessee System has earned its certification as a great place to work. The Great Place to Work Certification is determined by a random sampling of employees and what they say about their experiences working at the University of Tennessee System, its campuses and institutes. This year, 72% of responding employees rated the UT System as a great place to work —15 points higher than the average U.S. company. Great Place to Work is the global authority on workplace culture, employee experience and the leadership behaviors proven to deliver market-leading revenue, employee retention and increased innovation.

ADVOCATING FOR UT

GAIN SUPPORT FOR LEGISLATIVE AND BUDGETARY REQUESTS

We will strive for 100% success in our budgetary requests for UT from the state. We will also work to achieve 100% of our legislative agenda around supporting military-affiliated students, codifying UT Southern and securing changes to Tennessee's name, image and likeness law.

RESULTS:

The University secured 100% of its legislative agenda with near unanimous support. These priorities included codifying the UT System's newest campus, UT Southern, and establishing its campus advisory board (Public Chapter 648); ensuring UT's campuses are among the best places in the country for military-affiliated and veteran students by authorizing governing boards to allow in-state tuition for these populations, no matter their place of residency (Public Chapter 791); and updating Tennessee's name, image and likeness law to ensure a level playing field for Tennessee student-athletes and to position athletic programs more competitively (Public Chapter 845). The state budget also included historic investments benefiting the University. Key investments contained in the FY23 state budget include:

- \$72 million to fully fund the UT-Oak Ridge Innovation Institute (UT-ORII).

Funding for key capital needs, including:

- › \$55.9 million for a UT Chattanooga Health Sciences building that will enable the UTC School of Nursing to grow by 60% and help address the state's nursing shortage.
- › \$18 million for the UT Martin Tennessee Entrepreneurial Science and Technology Hub (TEST Hub), which will serve as a multi-institutional collaborative effort to support workforce development in West Tennessee.
- › \$83 million to expand the UT Knoxville Haslam College of Business building to accommodate program growth.
- \$170 million nonrecurring to assist public universities with implementing new enterprise resource planning systems. The new cloud-based human resources and finance system will provide a competitive edge by enhancing operational efficiency, reducing operating costs, ensuring accountability, increasing transparency and improving customer service.
- \$4 million recurring and \$2 million nonrecurring to support the Institute for American Civics at UT Knoxville, the state's flagship university. The non-partisan institute is located at the Howard H. Baker Jr. Center for Public Policy and supports and enhances statewide efforts to highlight the role American institutions play in resolving conflict, advancing human dignity and making public policy.
- \$3.9 million recurring in new operating funding for the UT Health Science Center.
- \$2.9 million recurring to support the UT College of Veterinary Medicine in faculty recruitment and retention as well as increasing student enrollment.
- \$500,000 nonrecurring to support law enforcement training through the Institute for Public Service's Law Enforcement Innovation Center's Distressed, At-Risk and Rural County Training (DARRT) program.
- \$500,000 nonrecurring for UT Knoxville and UT Chattanooga, respectively, to support minority engineering scholarships.

ADVOCATING FOR UT

STRENGTHEN BRAND AWARENESS AND REPUTATION ACROSS THE STATE

In 2022, we will work with campuses and institutes to strengthen brand awareness and reputation, ensure brand consistency and identify opportunities to further amplify stories of how UT is solving the state's Grand Challenges as identified in our 2022 integrated marketing communications (IMC) plan. The team will create a plan for 2022 and work with campus and institute communicators to find additional opportunities to amplify messages that reinforce "Everywhere You Look, UT." We will also increase distribution of Our Tennessee magazine by 25% by expanding publication to four times a year to increase awareness of impact and connectivity across the UT System and add 15 additional murals in strategic locations across the state, with the ultimate goal of having a mural in all 95 counties by 2030.

RESULTS:

The Division of Communications and Marketing worked with communicators across the state to execute the 2022 IMC plan to amplify messaging. The team has also added a fourth issue of Our Tennessee magazine. On the "Everywhere You Look, UT" mural front, 11 locations are painted and/or in process, with an additional four locations already scheduled for painting in the spring. The new additions year are visible to a combined 56,691 travelers a day.

GROW PARTNERSHIPS TO ADDRESSING THE STATE'S GRAND CHALLENGES

Building on our success from 2021 and continuing our mission to serve the state, we will work with state agencies to secure at least five new partnership opportunities with state entities.

RESULTS:

Six new partnerships were secured, totaling more than \$21.2 million. Notably, the Tennessee Department of Education awarded the UT System a \$20 million grant to serve as its lead teacher apprenticeship program partner. This significant grant allows UT to pioneer innovative workforce pathway opportunities under the teacher apprenticeship model.

Other partnerships include:

- The UT Health Science Center was awarded \$377,798 by the Tennessee Commission on Aging and Disability to support the development and operation of a mobile COVID-19 vaccination clinic to operate three days a week to serve multiple counties in West Tennessee.
- The Boyd Center for Business & Economic Research was awarded \$172,433 by the Tennessee Commission on Aging and Disability to conduct two studies related to its current funding formula and OPTIONS program.
- UT's Center for Industrial Services was awarded \$180,000 by the Tennessee Department of Labor and Workforce Development to assess its Workforce Services Division and make recommendations to strengthen the state's workforce development system. UT CIS conducted its research and provided its recommendations in early fall. It was asked by the department to continue efforts to assess and provide recommendations for another division.
- UT CIS has also been selected by the East Tennessee Workforce Development Board to serve as the one-stop operator for the East Tennessee region. UT CIS will receive \$500,000 annually to help job seekers and employers achieve their goals while working with partners to strengthen the region's workforce development efforts.
- Although of no monetary value, UT Knoxville and UT Martin have partnered with the Tennessee Department of Children's Services to participate in a three-year foster care outreach pilot program. The pilot program was part of the Gov. Bill Lee's 2021 legislative package with the goal to encourage foster student success in higher education and, ultimately, make Tennessee one of the most foster-friendly states.

ADVOCATING FOR UT

GROW PARTNERSHIPS TO ADDRESSING THE STATE'S GRAND CHALLENGES (CONTINUED)

Looking ahead at 2023, UT CIS submitted its proposal for a new two-year agreement that will address board certification assistance, professional development and related organizational research and planning. There is also preliminary work to position UT as its American Job Center one-stop operator. This would be an exciting opportunity for UT CIS and other UT entities.

The Government Relations team and other UT staff are actively working with the Tennessee Department of Economic and Community Development, Tennessee Department of Environment and Conservation, Tennessee State Fire Marshal, the Tennessee Department of Agriculture, the American Association of Retired Persons and others to strengthen our partnership focus and mission to serve the state.

EXPAND PRIVATE, PUBLIC, AND POLITICAL SUPPORT

The UT Foundation continues to focus on its three-fold mission of fundraising, alumni engagement and advocacy. In keeping with the mission, the goals for the 2022-23 year are to raise \$248.8 million in private gifts, generate 74,100 donors, expand the number of engaged alumni to 258,400, and increase participation in the Advocacy Network to 8,610 members. In addition, UTF has a five-year goal to generate \$1.25 billion in gifts between 2021-2025, with a target of reaching \$874 million by the end of June 2023.

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UT FOUNDATION

RESULTS:

The Foundation has made strong progress toward the accomplishment of the key goals.

- \$164.4 million in commitments year-to-date, 66.1% of goal
- 46,477 donors, 62.7% of goal
- 251,762 engaged alumni, 45.1% of goal
- 8,177 members in the Advocacy Network, 94.9% of goal

UTFI continues to move forward on the five-year goal to raise \$1.25 billion. At present, the cumulative total is \$790.4 million, which is well on target to achieve the 36-month metric of \$874 million.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Letter of Notification: Proposed New Programs**

Type: Action

Presenter: Dr. Linda C. Martin, Interim Chancellor, UT Southern

Background Information

A Letter of Notification (LON) is an abbreviated proposal document that summarizes a campus' plan to create a new academic program or major and marks the first step in a series of deliverables and reviews required by the Tennessee Higher Education Commission (THEC) to create a new program. Once the LON has been written, the entire process typically takes anywhere from 12-24 months and culminates with THEC's final approval.

In September 2022, THEC implemented several changes to its academic policies concerning new academic program development. Specifically, THEC policy A1.0, *New Academic Programs: Approval Process*, now includes the following provision: "*Upon consideration by an institution to develop a new academic program and institutional governing board approval, an institution may submit a LON to THEC.*"

Before this policy change, all LONs were sent directly to THEC via the UT System Office of Academic Affairs and Student Success to begin the review and development process; the Board of Trustees only approved new UT programs after the external review was complete and once THEC staff had granted the campus permission to seek governing board approval. In light of THEC's recent policy change, the Board will now need to approve all LONs prior to their submission to THEC. The Board will continue to approve new academic programs once the program's development is complete, but before the University seeks final approval from THEC. Given the time sensitivity for initiating the filing and review process, the following LONs are being presented to the Executive Committee for its consideration.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Letter of Notification: Master of Management Program, UTC**

Type: Action

Background Information

The University of Tennessee at Chattanooga (UTC) proposes a new Master of Management (MM) program (CIP 52.0213) with a target implementation date of Fall 2023. The MM degree in the Gary W. Rollins College of Business at UTC will provide an online, flexible degree program with a focus on two long-term populations:

- 1) recent college graduates of all majors who are entering the workforce and beginning their careers, and
- 2) college graduates who have been in the workplace for 2-5 years and need to enhance their people-related managerial skills and competencies. This degree program will help UTC support the local, regional, and national business community by decreasing this skill gap in their employees and managers.

The MM program is projected to have a low cost in overall program expenses since it will be utilizing existing resources in the Gary W. Rollins College of Business. The expense of an external reviewer conducting a site visit will be the only one-time expense. Projected recurring expenditures for Years 1 through 5 will be minimal, with only those for Faculty & Instructional Staff, Equipment after Year 1, and Marketing of the program to potential students.

Committee Action

The Committee Chair will call for a motion to recommend adoption of the following Resolution.

Resolved:

The Executive Committee, on behalf of the Board of Trustees, hereby approves the attached Letter of Notification pertaining to the proposed Master of Management and authorizes the submission of such Letter of Notification to the Tennessee Higher Education Commission.

Letter of Notification (LON)

Proposed Master of Management (MM)



Updated November 28, 2022

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SECTION I: PROGRAM OVERVIEW

Institution:	The University of Tennessee at Chattanooga
College:	Gary W. Rollins College of Business
Department:	Management
Title of Degree:	Master of Science in Management
Degree Designation	MS
Formal Degree Abbreviation:	MM
CIP/THEC Code:	52.0213
CIP Code Title:	Organizational Leadership
CIP Code Definition:	A program that focuses on leadership skills that can be applied to many sectors. Includes instruction in organizational planning, dynamics of leadership, finance, team building, conflict resolution and mediation, communication, and other management skills.
Contact Information:	<p>Karen Etzkorn, Ph.D., Director of Academic Affairs 505 Summer Place University of Tennessee Tower 1268-B Knoxville, TN 37902 Phone: 865-974-2104 Email: etzkorn@tennessee.edu</p> <p>Kathleen Wheatley, Ph.D., Associate Dean 601 McCallie Avenue, Dept. 6156 The University of Tennessee at Chattanooga Chattanooga, TN 37403 Phone: 423-425-2104 Email: kathleen-wheatley@utc.edu</p>
Proposed Implementation Date:	August 2023

Documentation of Board Approval

System and Campus Letters of Support



November 28, 2022

Dr. Julie Roberts, Chief Academic Officer
Tennessee Higher Education Commission
312 Rosa L Parks Ave. 9th Floor
Nashville, TN 37243

Dear Dr. Roberts:

I am writing to provide a Letter of Notification (LON) for a proposed Master of Management program at the University of Tennessee at Chattanooga (CIP 52.0213). The MM degree in the Gary W. Rollins College of Business at the University of Tennessee at Chattanooga (UTC) will provide an online, flexible degree program with a focus on two long-term populations: 1) recent college graduates of all majors who are entering the workforce and beginning their careers, and 2) college graduates who have been in the workplace for 2-5 years and need to enhance their people-related managerial skills and competencies. The coursework will help students to develop skills and knowledge within the areas of leadership, decision-making, business ethics, project management, human resource management, diversity management, personal career management, coaching, and basic business knowledge (accounting, economics, marketing, finance, operations, and supply chain).

We look forward to receiving an evaluation of the LON by THEC staff.

Bernie Savarese, Ed.D.
Acting Vice President of Academic Affairs and Student Success
University of Tennessee System

CC: Steve Angle
Jerry Hale
Lauren Ingraham
Sherry Ormsby
Kathleen Wheatley
Karen Etzkorn

**Office of the Chancellor**

Dept 5605
615 McCallie Avenue
Chattanooga, TN 37403
Phone: (423) 425-4141
Fax: (423) 425-5559
www.utcc.edu/chancellor

November 18, 2022

President Randy Boyd
800 Andy Holt Tower
The University of Tennessee
Knoxville, TN 37920

Dear President Boyd,

Please accept the attached letter of notification for a new Master of Management degree program at the University of Tennessee at Chattanooga in the Gary W. Rollins College of Business. I am delighted to support the proposal as it responds to clear workforce needs in the Greater Chattanooga area and the nation and links to our strategic goal of tightly aligning educational offerings to regional workforce needs.

The proposed program will provide a postgraduate degree that prepares students to become skilled managers across various sectors by combining coursework to develop skills in leadership, decision-making, and business ethics with personal and career coaching. This online, asynchronous program will be suitable for recent college graduates beginning their careers as well as currently working college graduates looking to enhance their managerial skills and competencies. The tools and understanding that this program provides students will help them to be successful contributors to their individual organizations and the Tennessee economy.

Thank you in advance for your support of this much-needed program as it moves through the University of Tennessee System and Tennessee Higher Education Commission review.

Sincerely,

A handwritten signature in blue ink that reads 'Steven R. Angle'.

Steven R. Angle, Ph.D.
Chancellor

SECTION II: BACKGROUND

Background and Academic Program Development

The vision to create a Master of Management (hereafter, “MM”) degree program in the Gary W. Rollins College of Business at the University of Tennessee at Chattanooga emerged from the confluence of a variety of observations: a slow, downward trending pattern of MBA enrollments before the pandemic, an acceptable but less-than-robust recovery of MBA enrollments post-pandemic, communication from alumni that the highly quantitative nature of the MBA curriculum was a “turn-off” to them in pursuing further business-related education at the graduate level, and a general sense that MM degrees seemed to be gaining traction at business schools around the nation. These factors led us to form a committee to conduct further research on the viability of creating a MM degree at our institution. Our research findings are summarized below. In research conducted by Harvard University, the Carnegie Foundation, and Stanford Research Center, the findings indicated that 85% of job success comes from having well-developed “soft” and “people” skills, and only 15% comes from technical skills and knowledge (hard skills). Higher levels of soft and people skills also predicted financial stability, higher lifetime earnings, and less frequency of financial crises.¹ Notably, the combination of technical expertise and people-related skills in managers increases the performance of their workers.² Once a guarantee of lifetime employment, technical proficiency is a commodity in today’s job market; thus, many companies today focus on hiring managers or potential managers on their people skills.³

Soft or people skills are umbrella terms used in management research and practice to refer to various skills that pertain to effectiveness in working with, managing, and leading people in organizations. These include “cognitive, meta-cognitive, interpersonal, intellectual, and practical skills [that] help people to adapt and behave positively so that they can deal effectively with the challenges of their professional and everyday life.”⁴ These skills are transferable across economic sectors and industries. They include the following: leadership, communication, decision-making, teamwork, problem-solving, critical and innovative thinking, creativity, self-confidence, ethical understanding, capacity for lifelong learning, the ability to cope with uncertainty, self-awareness, conflict management and negotiation, networking, as well as willingness to accept responsibility, commitment to work, and work-life balance maintenance.⁵

A significant challenge has emerged in higher education – the perceived deficit of the quality of college graduates’ soft or people skills, skills that employers view as critical for productivity in the 21st-century

¹ “The Hard Truth about Soft Skills.” (2019). American Management Association. <https://www.amanet.org/articles/the-hard-truth-about-soft-skills/>

² Ahmed, R. & Anantamula, V.S. (2017). Empirical study of project managers’ leadership competence and project performance. *Engineering Management Journal*, 29(3), 189-205. Carmeli, A., & Tishler, A. (2006). The relative importance of the top management team’s managerial skills. *International Journal of Manpower*, 27(1), 9-36.

³ Weritz, P. (2022). Hey Leaders, It’s Time to Train the Workforce: Critical Skills in the Digital Workplace. *Administrative Sciences*, 12(3), 1-13

⁴ Haselberger, D., Oberheumer, P., Perez, E., Cinque, M. and Capasso, D. (2012), “Mediating Soft Skills at Higher Education Institutions, Handbook of ModEs Project, Education and Culture DG Lifelong Learning Programme.” *European Union*, Brussels. (page 67).

⁵ Succu, C., & Wieandt, M. (2019). “Walk the talk: Soft skills’ assessment of graduates. *European Journal of Management and Business Economics*, 28(2), 114-125. See also: Moore, T. and Morton, J. (2017), “The myth of job readiness? Written communication, employability, and the ‘skills gap’ in higher education”, *Studies in Higher Education*, Vol. 42 No. 3, pp. 1-19.

workforce.⁶ A report published on October 21, 2019, by the Society for Human Resource Management (SHRM) concluded that “nearly 3 in 4 employers say they have a hard time finding university graduates with the soft skills their companies need.”⁷ In a 2018 Cengage/Morning Consult survey of 650 employers, over half found it “very or somewhat difficult” to find job applicants from new college graduates with interpersonal, communication, listening, and critical thinking skills.⁸

In addition to new college graduates, graduates who have been in the workforce for 2-5 years often discover that while they have adequate technical skills for their jobs, they lack the people skills necessary to be effective managers. In 2022, Christa Reed, Job Market Research Head of JobSearcher.com, notes the following trend and need on the part of employers:

There will be a 50% increase in independent workers by 2023. To manage the hybrid or remote working model, employers will need to change the way they track employee activity in order to maintain trust. When hiring a leader, “soft skills” will weigh significantly more. Social, emotional, and advanced cognitive abilities will be preferred over technical ones. A leader’s EQ [emotional intelligence] will be measured in order to hire a person that can practice the “employee first” culture.⁹

Business schools in the U.S. and throughout Europe are responding to these trends by offering MM degree programs that address recent college graduates’ and managers’ needs to enhance their soft or people skills to help them achieve career success. Unlike the traditional MBA degree, MM degrees are specialized degrees that focus on specific business dimensions.

Compared to traditional MBA degrees, MM degrees require “little or no previous work experience and allow an option for someone to enroll in the program within a few months or couple of years after completing the undergraduate program.” Additionally, these programs “are specifically tailored to complement and fortify the non-business, undergraduate education of students aspiring to enter some segment of the public, private, for-profit, not-for-profit, corporate, or entrepreneurial workforce.”¹⁰ Also, MM programs can be completed in a single academic year (if students attend them full-time), whereas MBA programs typically take a least two years or more for students to complete on a full-time basis.¹¹

⁶ Succi, C., & Canovi, M. (2020) Soft skills to enhance graduate employability: comparing students and employers’ perceptions, *Studies in Higher Education*, 45:9, 1834-1847, DOI: 10.1080/03075079.2019.1585420

⁷ Wilkie, D. (2019, October 21). “Employers say students aren’t learning soft skills in college.” *SHRM*. <https://www.shrm.org/resourcesandtools/hr-topics/employee-relations/pages/employers-say-students-arent-learning-soft-skills-in-college.aspx>

⁸ Ibid.

⁹ Farmiloe, B. (2022). “The 12 Biggest HR Trends in 2022.” *The SHRM Blog*. <https://blog.shrm.org/blog/the-12-biggest-hr-trends-in-2022>

¹⁰ “What is a Master’s in Management?” Texas A&M University, Mays Business School. <https://mays.tamu.edu/ms-business/what-is-a-masters-in-management/>

¹¹ Ibid.

Purpose and Nature of Academic Program

The MM degree in the Gary W. Rollins College of Business at the University of Tennessee at Chattanooga (UTC) will provide an online, flexible degree program with a focus on two long-term populations: 1) recent college graduates of all majors who are entering the workforce and beginning their careers, and 2) college graduates who have been in the workplace for 2-5 years and need to enhance their people-related managerial skills and competencies. This degree program will help UTC support the local, regional, and national business community by decreasing this skill gap in their employees and managers and supports the educational reform stated in the Complete College Tennessee Act (CCTA) of 2010: “To increase the number of skilled and prepared workers for future economic development and investment in the community.” The MM degree at UTC is designed to prepare workers to become skilled managers of people and to amplify the managerial skills of existing supervisors and managers in Tennessee and beyond.

This program will serve a wide range of possible students. It will be open to all students with an undergraduate degree in any major from a regionally accredited university. It will be especially attractive to those from various fields, including the liberal arts, engineering, computer sciences, natural sciences, nursing, and social sciences. The program will require 30 credit hours, and all classes will be offered in an online, asynchronous format, making it easier for students to complete the degree while holding down full-time jobs. The Management Department faculty of the Gary W. Rollins College of Business at UTC possess the experience, knowledge, and requisite skills to deploy this MM program as they were early adopters of online instruction at UTC and have been teaching online and hybrid courses for the university for the past ten years.

The MM program prepares students to manage people effectively in the workplace by focusing not simply on teaching theory and knowledge gained from academic research about how to manage people but also by requiring the students to apply theory and knowledge in their personal lives and the workplace through individualized competency development programs, project team assignments, and personal coaching. The coursework specifically helps students to develop skills and knowledge within the areas of leadership, decision-making, business ethics, project management, human resource management, diversity management, personal career management, coaching, and basic business knowledge (accounting, economics, marketing, finance, operations, and supply chain).

Program Outcomes

In addition to the various knowledge and skills within the areas of study listed above in the “Nature of the Program” section, MM graduates will be primarily assessed on the following outcomes for students’:

- Ability to explain and develop leadership skills from a robust understanding of extant organizational behavior and leadership theories
- Ability to create a robust personal career strategy that will guide them toward future positions in leadership
- Ability to effectively work in and lead teams
- Understanding of the ethical and social dynamics that influence the success and failure of organizational and personal leadership

This program aims to matriculate students who: 1) know where they are going career-wise and have a concrete plan for how to achieve their career goals, 2) possess the knowledge and skills to manage and lead others effectively so that they can achieve their career goals and enhance the productivity of the organizations for whom they work, 3) mentor and coach their current and future subordinates to enhance the career opportunities and productivity of others, and 4) contribute to the broader community by using their increased leadership skills in their preferred volunteering activities.

Alignment with State Master Plan and Institutional Mission

State Master Plan

Given that the MM program is not an undergraduate degree program, it does not explicitly address the “Drive to 55” core theme of the State Master Plan. It does, however, directly align with the Statutory Charge that directs the Tennessee Higher Education Commission to address the state’s economic development, workforce development, and research needs. This MM program is designed to enhance critical managerial skills that apply to leadership and managerial effectiveness in the workforce across all industries in the state.

Additionally, the MM program is designed to welcome and assist newly graduated college students – especially those who did not major in a business-related discipline – to learn important managerial skills and basic business knowledge that they did not receive exposure to in their undergraduate studies to enhance the probability of their success when they enter the business world. Thus, our MM program supports the outcomes of the focus of the State Master Plan (increasing the number of college graduates) by ensuring that college graduates have the option of continued learning that will enhance their transition into the workplace and, once there, provide educational support that provides them with managerial skills they did not obtain during their undergraduate educational experience. By linking content knowledge from learning from their undergraduate degree programs with robust management and leadership skills, we aim to enhance MM students’ career trajectories that will lead to financial stability and personal fulfillment in their lives. Additionally, since managerial and leadership skills translate across all industries, the MM degree will help meet the market demand for skilled managers. In summary, we focus on reducing this meta-occupational skill gap within the Tennessee economy regarding people-related management skills.¹²

Institutional Mission

UTC’s overall mission is to enrich and sustain our community, embrace diversity and inclusion, and inspire positive change.

The MM degree aims to provide new college graduates and those who have begun their managerial experience with the managerial competencies, tools, knowledge, and skills to be successful contributors to their organizations and the Tennessee economy. An essential part of the coursework of the MM degree

¹² “Postsecondary Attainment in the Decade of Decision: The Master Plan for Tennessee Postsecondary Education, 2015-2025.” *Tennessee Higher Education Commission*. See page 16.

focuses on providing students with a nuanced, skilled understanding of principles that will help them be managers who understand inclusion and can manage diversity with wisdom.

Creating positive change in organizations and the community requires leadership skills. John Kotter, a noted scholar of leadership from Harvard Business School, contends that “we usually label leadership “good” or “effective” when it moves people to a place in which both they and those who depend upon them are genuinely better off, and when it does so without trampling on the rights of others. The function implicit in this belief is constructive or adaptive change,”¹³ or a focus on the leadership dimension; the MM program will teach people how to lead and do so responsibly. Thus, the entire vision of the MM degree aligns seamlessly with UTCs overall vision and institutional goals, especially the goals to “transform lives through meaningful learning experiences” and “embrace diversity and inclusion as a path to excellence and societal change.”

Institutional Capacity to Deliver Program

This program is designed and supported by the faculty of the Management Department of the Gary W. Rollins College of Business (RCOB) at UTC. RCOB is one of the four degree-granting colleges at UTC with a long history of innovation and collaboration.

The College was a leader within the UTC community in adopting and implementing online learning, beginning its first online course offerings in 2014. Faculty in the Management Department assigned to teach in the MM program are highly experienced in teaching online and adept at engaging students in applying theory through creative experiential outside-of-class assignments, exercises, and projects. The faculty have national and international reputations of excellence in their research fields, and along with the support staff in the College, can support the program without undue strain on resources. Specifically, The Walker Center for Teaching and Learning at UTC, as well as the College’s internal instructional design and IT support staff, supports the faculty’s use of Canvas, Zoom, and other learning technologies, ensuring the successful development and delivery of online courses in the program. Additionally, the library and other student support services (e.g., Interlibrary loan, remote access to databases, etc.) support online learners and ensure access to all resources needed for a successful online delivery methodology.

Further, the Management Department collaborates with the College of Engineering and Computer Science to offer the Master of Science in Data Analytics (MSDA) degree recently launched in 2018. This successfully implemented degree crosses two departments and does not pull enrollment from other existing degree programs due to its unique nature. We anticipate that with the establishment of this degree, a primary outcome will be increasing enrollment at UTC. We do not anticipate that this program will cause any significant loss of enrollment in existing degree programs. Nationally, business schools that offer both MBA and MM degrees do not seem to injure each other’s enrollments, as the degrees tend to attract different student market segments. Students typically enter MM programs directly after graduation from college or after 1-2 years of work experience. They also tend not to have majored in business as undergraduates. Others that enter MM programs are satisfied with their technical expertise but desire to fine-tune specific management skills. In comparison, most students usually begin an MBA degree program after 3-5 years or

¹³ Kotter, J. (1995). “The 8 Steps of Transforming Change was first published in *Leading Change: Why Transformation Efforts Fail.*” *Harvard Business Review*, March-April, 1995, 59-67.

more of work experience and have specific career advancement desires and needs that require an in-depth coverage of multiple business fields in a generalist degree program.

This program meets the needs of students with existing jobs, those seeking to upgrade their current jobs, and those who are new graduates and will be seeking jobs upon graduation from the MM program. Our MM students are supported in their career management and job searching needs by the College's Student Success Center staff. The Student Success Center provides a full array of career support services to students, especially networking and job placement services.

These examples illustrate the institutional capacity to deliver the proposed academic program.

Existing Programs

The CIP code 52.0213 focuses on organizational planning, leadership dynamics, finance, communication, and management skills for various sectors, including business, government, non-profit, and education. Only five master's degree programs with the selected CIP code are currently offered in Tennessee. All five programs, as listed in the table below, are private institutions.

Table 1. Similar Programs in Tennessee

Institution	Program Name	CIP Code	Description/Focus of Program	Miles from UTC	3-Year Average Degrees
Trevecca Nazarene University	MAOL Organizational Leadership	52.0213	<ul style="list-style-type: none"> • Online only • 33 hours • 7 concentrations 	132	85
Lipscomb University	MA Organizational Leadership	52.0213	<ul style="list-style-type: none"> • Online only • 33 hours • No concentrations 	133	13
Strayer University – Tennessee	MS Management Leadership	52.0213	<ul style="list-style-type: none"> • Online only • 36 hours • No concentrations 	133	8
South College	MBA Leadership	52.0213	<ul style="list-style-type: none"> • Online MBA • Leadership concentration 	109	6
Omega Graduate School	MLitt Organizational Leadership	52.0213	<ul style="list-style-type: none"> • On-campus option • Online option • 32 hours • Organizational Leadership concentration 	36	4

Although not required per the Tennessee Higher Education Commission, UTC investigated the scope of potential competition from the surrounding region and determined that engaging a broader geographical region would be valuable. Several institutions within the Southern Regional Education Board (SREB) member states offer master's degree programs under CIP code 52.0213 or focus on management and leadership while using a different CIP code. Table 2 lists the 11 institutions that reported 100 or more completions within the last three years for their master's programs with a management and leadership focus. The completion data provided correlate with the CIP code of the program. However, the program title may have changed CIP codes within the past three years, making it difficult to match exact program titles to the CIP codes. Just four institutions within the SREB member states offering comparable degrees are public, identified in Table 2 in italics. Although many of these institutions provide online curricula, overall differences in institution type, degree type, CIP code, and program design set the proposed MM apart from anything currently available.

Table 2. Related Degree Programs in SREB Region

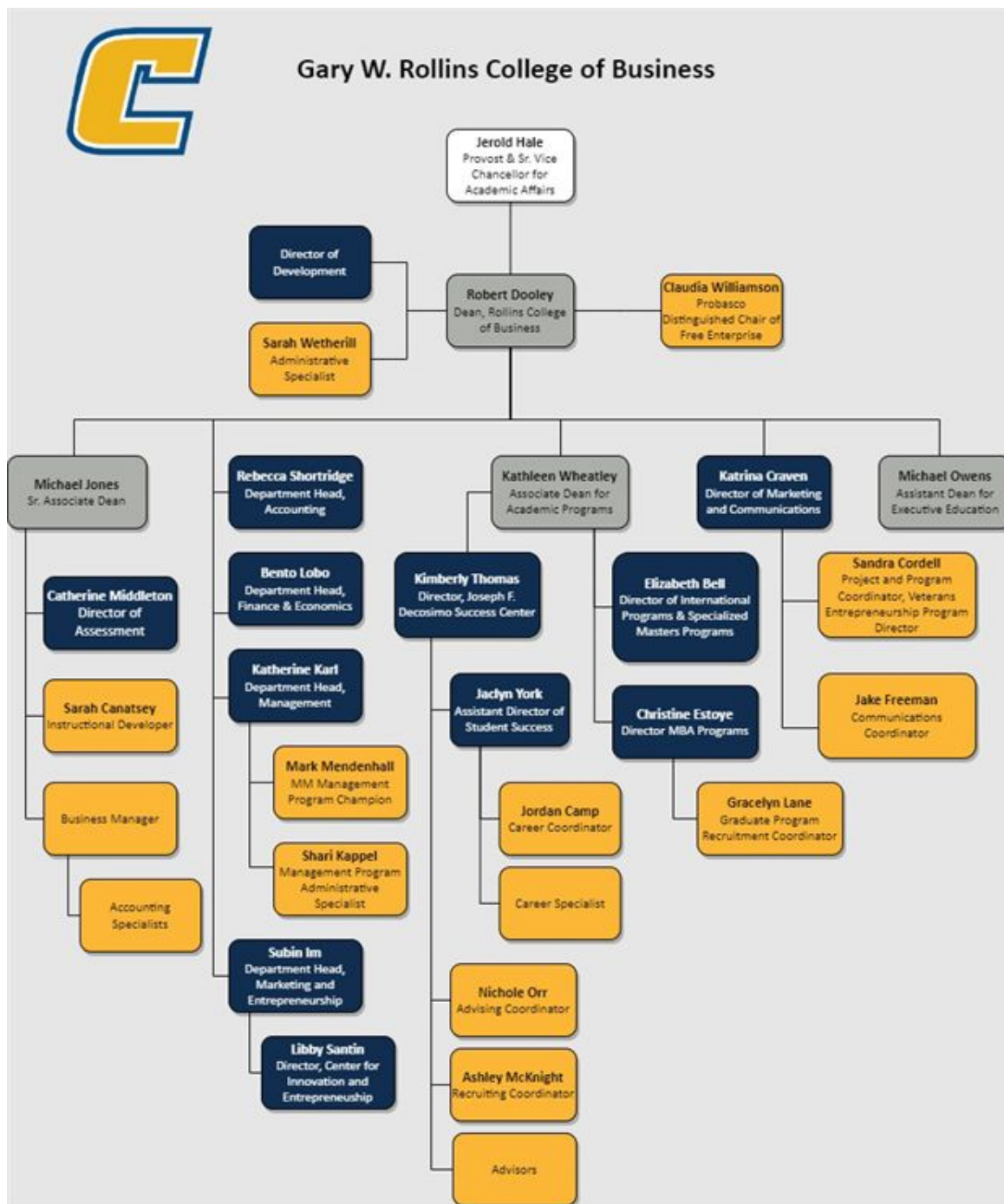
Institution	Program Name	CIP Code	3-Year Average Degrees
<i>The University of Texas at Dallas</i>	MS Management Science	52.0213	250
Columbia Southern University	MS Organizational Leadership	52.0213	182
University of the Incarnate Word	MS Organizational Development and Leadership	52.0213	151
<i>Western Kentucky University</i>	MA Organizational Leadership	52.0213	118
University of Charleston	MS Strategic Leadership	52.0213	114
Wake Forest University	MS Management	52.0213	106
<i>North Carolina State University at Raleigh</i>	MM Management	52.0213	106
Regent University	MA Organizational Leadership	52.0213	89
Wilmington University	MS Management	52.0213	77
<i>University of North Texas</i>	MBA Management	52.0213	52
Embry-Riddle Aeronautical University-Worldwide	MS Leadership	52.0213	50

Accreditation

The Gary W. Rollins College of Business is accredited by the Association to Advance Collegiate Schools of Business (AACSB). The MM degree program will not have any specific accreditation requirements as all programs will be (re)accredited at one time in one AACSB review. The next review process will occur within the 2023-2024 academic year; therefore, the MM degree program will be reviewed for accreditation with AACSB by 2029.

Administrative Structure

Figure 1. Organizational Chart for Academic Program



SECTION III: FEASIBILITY STUDY

Student Interest

Nationally and internationally, the number of MM degree programs is increasing in response to student demand for specialized business-related master's degrees. To assess a similar trend in the greater Chattanooga area, we surveyed a sample of UTC students from various academic majors who were close to graduation and recent graduates to gain insight into the degree of interest locally in a MM degree at UTC.

Survey invitations were sent to individuals in various majors from all four academic colleges who were either current UTC undergraduate students or recent graduates. Within one week, 65 respondents completed the survey. Of those responding, more than 75% were current students (n=50), and 14% were employed. Respondents were spread out over four main age groups, with the highest percentage identifying as between 18-21 years old (38%), followed by those 22-24 (31%), 25-34 years old (17%), and those older than 35 (14%). Additionally, 39 respondents were female, 23 were male, and 3 were non-binary. Seventy-four percent felt that pursuing a master's degree in an area of business would benefit their careers. When asked if having the option to pursue a graduate degree in management that focuses only on people skills would greatly appeal to them, 62% responded affirmatively, with 31% strongly agreeing with the proposal. Only 19% disagreed, while 20% were neutral. Fifty-seven percent stated that an MM degree appeals to them more than a traditional MBA degree.

Of the respondents currently working, 73% believed that developing managerial and leadership skills is an essential next step in their careers, and 67% indicated that the company they work for values and supports employees who pursue graduate studies in business. Importantly, our survey indicates that the trend of interest in MM degree programs elsewhere exists locally as well. After describing the content of the curriculum in the proposed MM program at UTC, when asked, "I would be interested in enrolling in a Master of Management program like this in the future," 72% of the respondents replied affirmatively, with 34% strongly agreeing and 38% agreeing. 15% were neutral, and only 12% disagreed. Lastly, during the survey administration, some survey participants indicated that they would like further information or be contacted by program staff if the program was approved so that they could enroll. Full survey results are included in Appendix C.

Local and Regional Demand

In terms of local and regional labor market demand for MM graduates, Table 3 shows a list of 17 job titles based on the 6-digit Standard Occupational Classification (SOC) codes that match with a master's degree code of CIP 52.0213 along with Tennessee labor market data for each occupation.¹⁴ State employment for these jobs is about equal to the national average when adjusted for overall workforce size. With a few exceptions, these positions remained relatively stable even throughout a global pandemic.

¹⁴ Lightcast, 2022

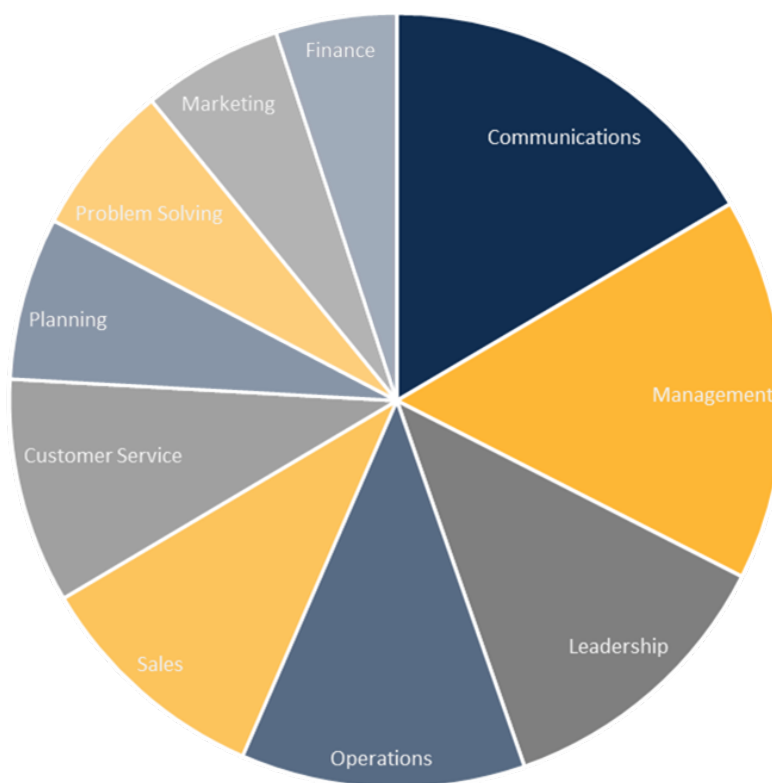
Table 3. Tennessee Labor Market Data for Six-Digit SOC Codes Matching with Proposed Program (CIP Code 52.0213)

SOC Code	Job Title	2022 Jobs	% Change 2020-2022	% Change 2022-2032	Median Earnings
11-1011	Chief Executives	6,141	-17%	-6%	\$152,651.20
11-1021	General and Operations Managers	58,952	29%	12%	\$99,611.20
11-2021	Marketing Managers	7,116	22%	10%	\$103,750.40
11-2022	Sales Managers	8,952	17%	8%	\$118,976.00
11-2032	Public Relations Managers	540	-3%	19%	\$94,931.20
11-2033	Fundraising Managers	243	-14%	23%	\$78,020.80
11-3012	Administrative Services Managers	8,446	19%	5%	\$119,745.60
11-3013	Facilities Managers	1,650	26%	13%	\$85,883.20
11-3031	Financial Managers	18,078	9%	14%	\$119,620.80
11-3061	Purchasing Managers	1,106	-4%	10%	\$102,044.80
11-3071	Transportation, Storage, & Distribution Managers	4,492	17%	5%	\$83,865.60
11-3121	Human Resources Managers	3,485	3%	10%	\$96,616.00
11-3131	Training and Development Managers	909	-8%	8%	\$98,363.20
11-9199	Managers, All Other	14,480	2%	5%	\$75,088.00
13-1111	Management Analysts	8,654	-3%	22%	\$79,393.60
13-2051	Financial and Investment Analysts	4,030	7%	12%	\$77,292.80
13-2099	Financial Specialists, All Other	3,237	3%	3%	\$60,382.40

Top Skills for Occupational Matches

Looking within Tennessee job postings between January 2020 and July 2022 for the previously listed 17 job titles that match our proposed MM degree, Figure 2 shows the top 10 in-demand skills included in these job postings. Overwhelmingly, communication, management, leadership, and operations are the most named skills within the range of job postings. When combined, these skills appeared in more than half of all job postings during the given time frame. The most sought-after skills for these occupations are focused on in the proposed MM degree program at UTC.

Figure 2. Top In-Demand Skills within Job Postings for Occupational Matches in Tennessee



Regional Area Job Growth

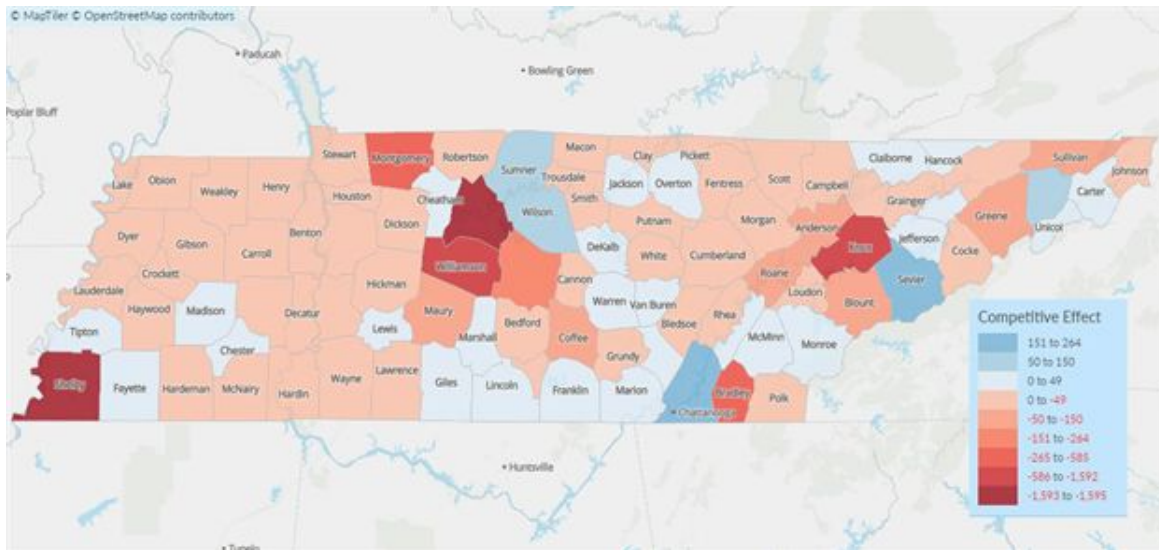
As shown in Table 3, the percent growth in jobs for all 17 job titles remained steady from 2020 to 2022 throughout Tennessee. This percent growth can be further analyzed to determine the competitive effect within a region by subtracting the expected change from the actual regional job change within the job titles of interest.¹⁵ This calculation shows how much job growth is attributed to a unique competitive advantage that cannot be explained by broader trends such as the National Growth Effect. Notably, Hamilton County had the second highest competitive effect in job postings from 2020 to 2022, as shown in Table 4 and Figure 3.

¹⁵ Economic Modeling Specialists, Intl. Knowledge Base, 2022

Table 4. Top Five and Bottom Five Tennessee Counties by Competitive Effect for Job Postings within Six-Digit SOC Code Matches with Proposed Program

County Name	2020 Jobs	2022 Jobs	% Change 2020-2022	National Growth Effect	Competitive Effect
Sevier County	1,303	1,726	32%	58	193
Hamilton County	8,556	10,221	19%	383	151
Washington County	2,255	2,754	22%	101	101
Wilson County	2,262	2,758	22%	101	96
Sumner County	2,601	3,116	20%	116	54
Montgomery County	1,969	1,947	-1%	88	-371
Williamson County	10,721	12,032	12%	480	-586
Knox County	10,189	11,348	11%	456	-644
Davidson County	28,597	32,064	12%	1,279	-1,593
Shelby County	21,660	23,898	10%	969	-1,595

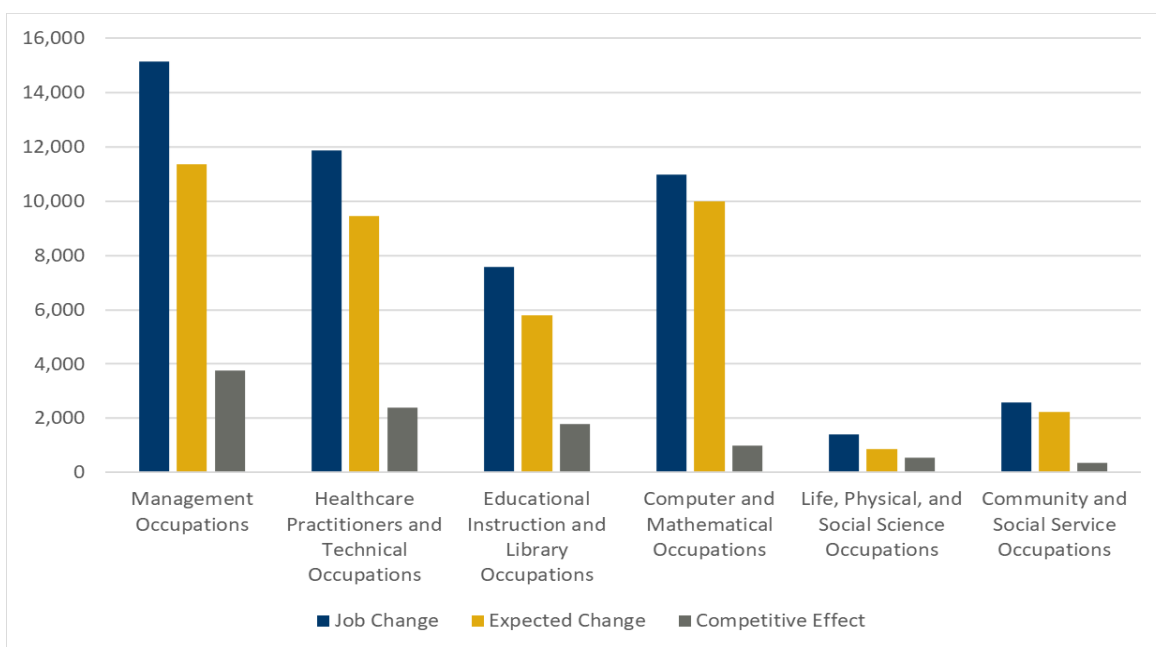
Figure 3. Competitive Effect for Job Postings of Occupation Matches by County in Tennessee



Employer Demand

There is a strong demand for the proposed program from local and regional employers, which is discussed further in the Community and Industry Partnerships Section. This proposed program will also benefit from the sustained need for managers across industries into the future. Within a 100-mile radius of Chattanooga, occupational titles within Management Occupations (SOC 11-0000) have the most significant expected change. Figure 4 and Table 5 show the top five most competitive occupational categories in the Chattanooga area from 2022 to 2027.¹⁶

Figure 4. Top Five Most Competitive Occupations by SOC 2-Digit Code in 100-Mile Radius of Chattanooga



The occupational categories in Table 5 are grouped by the Standard Occupation Classification (SOC) 2-digit umbrella code with a geographic focus on positions within 100 miles of Chattanooga. Those listed in Table 3 (Job Matches Labor Market Data in Tennessee) further delineate each occupational category into a narrower scope using the 6-digit SOC codes. This method allows for an enhanced understanding of the types of jobs students could obtain with the MM degree.

¹⁶ Lightcast, 2022

Table 5. Top Five Most Competitive Occupational Categories (SOC 2-digit code) in 100-Mile Radius of Chattanooga

Occupational Category	Job Change	Expected Change	Competitive Effect
Management Occupations	15,137	11,367	3,770
Healthcare Practitioners and Technical Occupations	11,864	9,465	2,399
Educational Instruction and Library Occupations	7,584	5,805	1,779
Computer and Mathematical Occupations	10,974	9,984	991
Life, Physical, and Social Science Occupations	1,402	857	545

Referring to Table 3, the “% Change 2022–2032” column shows the expected growth rate for managerial positions which MM students would seek to obtain upon graduation. All 17 job categories are expected to exhibit either single or double-digit percentage growth over the next ten years except for one, Chief Executive Officer, and that is the one position on the list that graduates from this program would not be expected to obtain upon graduation.

In summary, based on our analyses, we conclude there is a clear 1) interest in the MM degree program on the part of potential students, 2) need and demand for skilled managers both locally and regionally based on labor statistics and observations of local executives, and 3) a strong picture over the next decade of a trending increasing job market for skilled managers.

Community and Industry Partnerships

There is a strong demand for the proposed program from local and regional employers. We asked executives on the Business Advisory Board of the Gary W. Rollins College of Business at UTC to assess the need for a MM program in the greater Chattanooga area and beyond. Their written responses to this request are included in Appendix A. In the letters, there is a strong support for the MM degree. Their comments reflect previously noted research that indicates companies’ focus on finding potential managers with excellent people-related skills. Miller Wellborn, Chairman of the Board at Smartbank, summarizes this need well in his letter:

“We feel this program will help individuals further their interpersonal development skills and will tremendously enhance the professional workforce in our area. Smartbank would greatly benefit from sending some of our own associates through this new program... [and] we would also look to hire individuals that have completed the Master of Management program.”

The letters in Appendix A are from the following local executives:

- Janelle Reilly, Market Chief Executive Officer at CHI Memorial Hospital System
- Renee B. Ford, Shareholder at Elliott Davis, LLC
- Miller Wellborn, Chairman of the Board at Smartbank
- Steven L. Frost, Chairman of Tuftco Corporation

Top Companies Posting

While looking within the same counties previously shown, Table 6 lists ten companies that had the highest numbers of unique job postings between January 2020 to July 2022 that matched with any of the 17 occupational titles used and required a master's degree.

Table 6. Top Companies Posting within Tennessee and 100-Mile Radius of Chattanooga

Company Name	Unique Job Postings from January 2020 – July 2022
Amazon	1,747
Deloitte	1,605
Anthem Blue Cross	1,536
Robert Half	1,011
Cox Communications	813
Humana	706
KPMG	606
Emory Healthcare	575
Delta Air Lines	528
Coca-Cola	522

SECTION IV: ENROLLMENT AND GRADUATION PROJECTIONS

The realistic enrollment projections for the MM program are listed in Table 7 and were calculated based on the yearly enrollment trends of the MBA and MSDA programs at UTC, as well as the average number of degrees awarded for similar programs at other Tennessee institutions. Because the program is designed to be flexible and accommodate students who are employed full-time, these estimates consist of both part-time and full-time projected enrollment. Considering that full-time students should be able to complete the program within one academic year, it is reasonable to assume that all full-time students will graduate on time. Part-time students should be able to complete the program within two academic years and have a higher risk of attrition if completing the program while employed full-time. Therefore, the calculations in Table 7 consider a 10% attrition rate for part-time students and a 100% graduation rate for full-time students.

Table 7: Projected Enrollments and Graduates

Year	Academic Year	Projected Total Fall Enrollment	Projected Attrition	Projected Graduates
1	2023-2024	15	1	4
2	2024-2025	31	3	15
3	2025-2026	45	4	33
4	2026-2027	60	5	47
5	2027-2028	75	6	61

SECTION V: PROJECTED COSTS TO DELIVER THE PROGRAM

The MM program is projected to have a low cost in overall program expenses since it will be utilizing existing resources in the Gary W. Rollins College of Business. The expense of an external reviewer conducting a site visit will be the only one-time expense. Projected recurring expenditures for Years 1 through 5 will be minimal, with only those for Faculty & Instructional Staff, Equipment after Year 1, and Marketing of the program to potential students. The proposed expenses are detailed in Appendix B.

Faculty & Instructional Staff

During Year 1, existing faculty in the Gary W. Rollins College of Business at UTC will teach all the courses in the program. Salary and benefits for the faculty teaching in the program from Year 2 through Year 5 are in Appendix B. These projections assume that one new faculty will be hired in Year 2. Another new faculty member will be hired in Year 3. costs assume an annual salary of \$130,000 for the faculty hired in Year 2 and \$135,000 for the faculty hired in Year 3. benefit costs of 41% are included as well as a 2% annual increase after that.

Non-Instructional Staff

No new non-instructional staff will be needed as existing staff can handle the increased number of students.

Graduate Assistants

No graduate assistants will be utilized for this program.

Accreditation

There are no additional accreditation costs for this program as all Rollins College of Business Programs are (re)accredited at one time in one AACSB review. This program is new, so it will not be included in the next AACSB review (in 2024) but will be included in the review in 2029.

Consultants

A one-time expense will be incurred for the selected external reviewer to do a site visit as part of the New Academic Program Proposal process. This cost has been reflected in Appendix B.

Equipment

The equipment costs expected will include new computer equipment for the new faculty hired in Year 2 and Year 3. This equipment cost will be \$2,000 for each hire.

Information Technology

No new information technology will be required for this program.

Library Resources

No new library acquisitions will be required for this program.

Marketing

Marketing costs for the program are expected to begin in Year 1 and continue each year after. Based on the cost of UTC's marketing efforts for the current Master of Business Administration and Master of Science in Data Analytics programs, an estimated \$15,000 was calculated for the incremental expense to support these already established marketing efforts. The costs in Appendix B reflect a 3% increase each year to account for inflation.

Facilities

No new facilities will be required. Faculty will be provided offices in an existing building.

Travel

No travel expenses will be required for this program.

Other Resources

Other resources will not be needed for this program.

SECTION VI: PROJECTED REVENUES FOR THE PROGRAM

Tuition

Anticipated revenue for the program's first year based on tuition income is \$183,255, which will cover all expenses (projected to be \$16,500) for Year 1 and provide a healthy return to the university after the first year. These projections are based on the total in-state tuition and differential fees per credit hour, which are constituted from in-state tuition (\$478), the online fee (\$56), differential tuition (\$59), and College of Business fee (\$50), totaling \$643 per credit hour. Year 1 totals also assume that the part-time students are all in-state students and take 15 credit hours during Year 1. The totals for the four full-time students are based on enrolling for 30 hours each in Year 1.

Thus, first-year revenue is based on a cohort of 15 students (11 part-time and four full-time) is anticipated that the 11 part-time students will generate \$106,095 from tuition and fees for 15 credit hours while the four full-time students will generate \$77,160 from tuition and fees for 30 credit hours. Projected revenues from Year 2 through Year 5 (please see Appendix A) are based on an incremental increase in enrollment for each year, moving from 15 students in Year 1 to 20 students in Year 2, and then to 30, 40, and 50 students respectively with an assumed 3% yearly increase in tuition levels. The projections also are based on a 10% student dropout rate and that part-time students will graduate in 24 months.

Grants

No expected grants will be used or received for this program.

Other

No other revenues are expected for this program.

APPENDIX A: LETTERS OF SUPPORT



2525 deSales Avenue
Chattanooga, TN 37404

P 423.495.2525
www.memorial.org

October 6, 2022

Steven R. Angle, Ph.D., Chancellor
University of Tennessee at Chattanooga
615 McCallie Avenue
Chattanooga, TN 37403

Dear Chancellor Angle,

CHI Memorial is pleased to support the University of Tennessee at Chattanooga's initiative to create a Masters in Management Degree program.

As a nationally recognized, faith-based healthcare system, CHI Memorial continually strives to provide the most advanced medical care available to our region while also honoring our covenant to care for the whole person - body, mind, and spirit.

A well-educated and energized workforce is critical to sustaining the wonderful care our physicians and staff have provided to our community since 1952. We fully support UTC's vision of equipping graduates with enhanced leadership skills. In healthcare, interpersonal, communication, listening skills, time management, and empathy are even more important than in any other industry because we are caring for patients and their families during times of health uncertainty.

Our organization is particularly excited to learn that this educational opportunity may be delivered in an online format which will be especially beneficial to our staff whose schedules greatly vary.

Sincerely,

Janelle Reilly
Market Chief Executive Officer
CHI Memorial



October 10, 2022

Mr. Steven R. Angle, Ph.D.
Chancellor
University of Tennessee at Chattanooga

Dear Chancellor Angle,

As a practicing professional here in Chattanooga for over 32 years, I am keenly aware that it is the non-technical skillsets that are truly what sets one 3.75+ GPA candidate apart from another. Our great School of Business here at UTC consistently turns out graduates with excellent technical skills such as accounting and taxation, financial management, economics. While mastering these fields of study are critical to early career success, progression into management and leadership roles are frequently difficult for those who lack the ability to effectively communicate either verbally or in writing, to engage in conversation at the table, and to motivate and develop new talent. With the increasing level of remote work arrangements, effective leadership and communication are becoming even more challenging.

This topic has been popular between the professional world and academia for many years. While the corporate sector has somewhat attempted to address it with one-off management training programs, when push comes to shove it is usually the technical training and focus on productive work that takes priority. Business is growing here like never before, and Chattanooga is quickly becoming a market of choice for young professionals from all over the Southeast. We need to be intentional in providing the tools that will allow them to step up and successfully lead these businesses, today and tomorrow.

I cannot say enough how pleased and excited I am to support a proposed Masters in Management degree at UTC.

Sincerely,

A handwritten signature in black ink that reads 'Renee B. Ford'.

Renee B. Ford, Shareholder
Elliott Davis, LLC

629 Market Street
Suite 100
Chattanooga, TN 37402
423.756.7100

elliottdavis.com



October 7, 2022

Chancellor Steven R. Angle, Ph.D.
University of Tennessee at Chattanooga
101 Founders Hall Dept. 5605
615 McCallie Avenue
Chattanooga, TN 37403

Dear Chancellor Angle,

SmartBank strongly supports the new Masters in Management Program the University of Tennessee at Chattanooga plans to launch in the Fall of 2023. We feel this program will help individuals further their interpersonal development skills and will tremendously enhance the professional workforce in our area.

SmartBank would greatly benefit from sending some of our own associates through this new program as we know it will only help develop stronger leadership skills for individuals. We would also look to hire individuals that have completed the Masters In Management Program from your University.

SmartBank believes this program would greatly benefit not only the Chattanooga area but our surrounding areas as well.

Sincerely,

Miller Welborn
Chairman of the Board
SmartBank

WWW.SMARTBANK.COM



TUFTCO CORP.
EXECUTIVE AND CORPORATE OFFICES

P.O. Box 3009, 2318 HOLTZCLAW AVE., CHATTANOOGA, TN 37404, U.S.A.
U.S.A. TOLL FREE 1-800-288-3826 • PHONE (423) 698-8901 • FAX (423) 698-0842
INTERNET: WWW.TUFTCO.COM • EMAIL: TUFTCO@TUFTCO.COM

October 20, 2022

Chancellor Steven R. Angle
UTC
101 Founders Hall, Dept. 5605
615 McCallie Ave.
Chattanooga, TN

Dear Steve,

I am writing to request support for the new Masters in Management program at the Rollins College of Business. Over the years, our various companies have benefited greatly from the business school as a result of a significant number of graduates becoming part of our team, including most of our leadership staff.

UTC contributes to the community in so many ways, but most importantly with a steady stream of graduates who positively impact the lives of others. UTC is clearly Chattanooga's university and a strong catalyst for good, not only in our community and region, but as ambassadors of goodwill to the world.

Sincerely,

Steven L. Frost
Chairman



October 31, 2022

Mr. Steven R. Angle, Ph. D.
Chancellor, University of Tennessee Chattanooga
615 McCallie Avenue
Chattanooga, TN 37402

Dear Dr. Angle:

I just wanted to formally write and communicate to you my support for the new Masters in Management Program. This program focuses on developing leadership skills, targets mostly working professionals and will be delivered in an online format.

As a company that had to hire and interview outside consultants to help build our internal program for our 500 employees, I wish that the marketplace in Chattanooga had this program when we were shopping. I think there will be tremendous demand for this program and it will fill a void in our community and state for developing leaders.

Please let me know if you have any questions

Very truly yours,

MAULDIN & JENKINS, LLC

A handwritten signature in dark ink, appearing to read "J. Vaughn".

Jim Vaughn

APPENDIX B: THEC FINANCIAL PROJECTIONS FORM



Institution	The University of Tennessee at Chattanooga					
Program Name	Master of Science in Management (MM)					
Projected One-Time Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff						
Non-Instructional Staff						
Graduate Assistants						
Accreditation						
Consultants	\$2,500					
Equipment						
Information Technology						
Library resources						
Marketing						
Facilities						
Travel						
Other						
Total One-Time Expenditures	\$2,500	\$0	\$0	\$0	\$0	\$0
Projected Recurring Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff			\$183,300	\$377,316	\$384,862	\$392,560
Non-Instructional Staff						
Graduate Assistants						
Accreditation						
Consultants						
Equipment			\$2,000	\$2,000		
Information Technology						
Library						
Marketing		\$15,000	\$15,450	\$15,914	\$16,391	\$16,883
Facilities						
Travel						
Other						
Total Recurring Expenditures	\$0	\$15,000	\$200,750	\$395,230	\$401,253	\$409,443
Grand Total (One-Time and Recurring)	\$2,500	\$15,000	\$200,750	\$395,230	\$401,253	\$409,443

Projected Revenue						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Tuition		\$193,800	\$387,216	\$595,165	\$835,936	\$1,090,618
Grants						
Other						
Total Revenues	\$0	\$193,800	\$387,216	\$595,165	\$835,936	\$1,090,618

APPENDIX C: STUDENT INTEREST SURVEY

Survey Distribution

This survey was conducted from October 7, 2022, through October 20, 2022. It was sent via email invitation and used an anonymous link to solicit input from current undergraduate students and recent graduates within 70 majors from all four academic colleges at UTC. Within the distribution of the invitations, only two emails bounced. Additionally, of the 86 surveys started, 65 respondents finished the survey, meaning there was a 75.6% completion rate once started. The survey included eight questions (including a matrix table question) regarding background and interest in a potential Master of Management program at UTC.

Survey Questions

1. Please select your age range.
 - a. 18-21
 - b. 22-24
 - c. 25-34
 - d. 35+
2. Please select your gender.
 - a. Male
 - b. Female
 - c. Non-binary/third gender
 - d. Prefer not to say
3. Do you have an undergraduate degree?
 - a. Yes
 - b. No, I am a current undergraduate student
 - c. No, and I am not a current student
4. Which area of academic study are you pursuing?
 Only displayed if answered “No, I am a current undergraduate student” to question 3.
 - a. Engineering
 - b. Liberal Arts
 - c. Nursing
 - d. Natural Science
 - e. Computer Science
 - f. Education
 - g. Physical Therapy
 - h. Business
 - i. Other
5. In which area of academic study was your undergraduate degree?
 Only displayed if answered “Yes” to question 3.
 - a. Engineering

- b. Liberal Arts
 - c. Nursing
 - d. Natural Science
 - e. Computer Science
 - f. Education
 - g. Physical Therapy
 - h. Business
 - i. Other
6. Are you currently employed?
- a. Yes, full-time
 - b. Yes, part-time
 - c. No
7. Please select the occupation category that best matches your employment.
- Only displayed if answered “Yes” to question 6.
- a. Management or Administration Role
 - b. Business and Financial Operations
 - c. Computer and Mathematical
 - d. Architecture & Engineering
 - e. Life, Physical, and Social Services
 - f. Legal Services
 - g. Educational Instruction and Library
 - h. Arts, Design, Entertainment, Sports, and Media
 - i. Healthcare Practitioners and Technicians
 - j. Healthcare Support and Assistants
 - k. Office and Administrative Support
 - l. Protective Services
 - m. Food Preparation and Serving
 - n. Personal Care and Services
 - o. Sales and Retail
 - p. Building and Grounds Cleaning/Maintenance
 - q. Farming, Fishing, and Forestry
 - r. Construction and Extraction
 - s. Installation, Maintenance, and Repair
 - t. Production
 - u. Transportation and Material Moving
 - v. Military Specific Services
 - w. None of these options

Please indicate the level to which you agree with the following questions:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Pursuing a master's degree in an area of business would benefit me in my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing managerial and leadership skills is an important next step for my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Only displayed if answered "Yes" to question 6.					
The company I work for values and supports employees who pursue graduate studies in business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Only displayed if answered "Yes" to question 6.					
The option of a graduate degree in management that focuses only on "people skills" and not quantitative skills greatly appeals to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
This type of degree appeals to me more than the traditional MBA degree.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would be interested in enrolling in a Master in Management program like this in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Survey Results

Distribution of the student interest survey produced a total of 65 finished survey responses. Of the 65 responses, 50 were from current undergraduate students, and 15 were from previous students who held undergraduate degrees. Of the 50 undergraduate student responses, 64% are currently studying within the areas of Business or Liberal Arts. Within the 15 responses from those who have completed an undergraduate degree, seven responded to being employed full-time (at least 40 hours per week), and six responded to being unemployed.

Responses to the survey indicate that the program's target population was successfully reached, as 69.2% reported being between 18 and 24 years old. Thirty-five percent of those who responded positively to "the option of a graduate degree in management that focuses only on 'people skills and not quantitative skills

greatly appeals to me” were within the age range of 22-24 years old. Additionally, 60% of the 15 respondents that hold an undergraduate degree also responded “agree” or “strongly agree” to the same question.

Table 8. Responses to Student Interest Survey

Question	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total Responses
Pursuing a master’s degree in an area of business would benefit me in my career.	5	3	9	20	28	65
Developing managerial and leadership skills is an important next step for my career. <small>Only displayed if answered “Yes” to question 6.</small>	0	1	3	3	8	15
The company I work for values and supports employees who pursue graduate studies in business. <small>Only displayed if answered “Yes” to question 6.</small>	2	0	1	3	3	9
The option of a graduate degree in management that focuses only on “people skills” and not quantitative skills greatly appeals to me.	6	6	13	20	20	65
This type of degree appeals to me more than the traditional MBA degree.	2	6	20	22	15	65
I would be interested in enrolling in a Master of Management program like this in the future.	4	4	10	25	22	65



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Letter of Notification: Bachelor of Science in Environmental Engineering, UTK**

Type: Action

Background Information

The University of Tennessee, Knoxville (UTK) proposes a new Bachelor of Science (BS) in Environmental Engineering (CIP 14.1401) with a target implementation date of January 2024. The Department of Civil and Environmental Engineering at UTK offers a nationally ranked BS degree in Civil Engineering, an MS degree in Civil Engineering, and a Ph.D. degree in Civil Engineering. UT undergraduate students interested in Environmental Engineering (ENVE) must select different degree programs that do not fully align with their interests. For example, they may choose degree options in Biosystems Engineering, Chemical Engineering, or even a non-engineering degree like Environmental Science. It is projected that offering a focused BS ENVE will increase enrollment and retention by placing students in a degree program that fits their interests and attracting students who otherwise leave the state to pursue ENVE programs at other institutions.

The departmental faculty have approved a proposed curriculum for the BS ENVE degree, which will include fundamental topics such as fluid mechanics, environmental chemistry, microbiology, fate and transport of environmental pollutants, environmental systems engineering, and risk assessment, as well as applied topics such as hydrology, water resources engineering, water and waste treatment, air pollution control, solid and hazardous waste management, and energy systems.

Existing infrastructure on campus can support the program, including existing environmental engineering research labs and equipment, a fully equipped environmental teaching laboratory, a designated water resources teaching laboratory in the John D. Tickle building, two full-time staff technicians, and the Water Quality Core Facility. The Tickle College of Engineering approved one new faculty line to support the new BS ENVE degree program. That individual, an assistant professor, has already been hired, effective August 1, 2022, and is the basis of new operating expenses.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

Committee Action

The Committee Chair will call for a motion to recommend adoption of the following Resolution.

Resolved:

The Executive Committee, on behalf of the Board of Trustees, hereby approves the attached Letter of Notification pertaining to the proposed Bachelor of Science in Environmental Engineering and authorizes the submission of such Letter of Notification to the Tennessee Higher Education Commission.

Letter of Notification (LON)

Bachelor of Science Environmental Engineering



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

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Section I: Overview

Program Information

Institution:	University of Tennessee Knoxville
College:	Tickle College of Engineering
Department:	Civil and Environmental Engineering
Title of Degree:	Bachelor of Science in Environmental Engineering
Degree Designation:	Bachelor of Science
Formal Degree Abbreviation:	BS ENVE
CIP/THEC Code:	09.14.1401.00
CIP Code Title:	Environmental Engineering
Proposed UT BOT Approval:	October 2023
Proposed THEC Approval:	November 2023
Proposed Implementation Date:	January 2024
Academic Program Liaisons:	<p>Karen Etzkorn, Director of Academic Affairs 505 Summer Place / 1268B UT Tower University of Tennessee System, 37902 Phone number: 865-974-2140 Email: etzkorn@tennessee.edu</p> <p>Chris Cox, Department Head 325 JD Tickle Engineering Building 851 Neyland Drive Knoxville TN 37996-2313 Phone: 865-974-7700 Email: ccox9@utk.edu</p>

Documentation of Board Approval

System Letter of Support

THE UNIVERSITY OF TENNESSEE SYSTEM

ACADEMIC AFFAIRS AND STUDENT SUCCESS

December 22, 2022

Dr. Julie Roberts, Chief Academic Officer
 Tennessee Higher Education Commission
 312 Rosa L Parks Ave. 9th Floor
 Nashville, TN 37243

Dear Dr. Roberts:

On behalf of UT Knoxville's Tickle College of Engineering, please accept the attached Letter of Notification (LON) for a proposed Bachelor of Science program in Environmental Engineering (CIP 14.1401). The BS ENVE program will cover fundamental topics such as fluid mechanics, environmental chemistry, microbiology, fate and transport of environmental pollutants, environmental systems engineering, and risk assessment, as well as applied topics including hydrology, water resources engineering, water, and waste treatment, air pollution control, solid and hazardous waste management, and energy systems. The University is well-positioned to support this degree program through current faculty resources, and has existing infrastructure on campus to support the program (e.g., existing environmental engineering research labs and equipment, a fully-equipped environmental teaching lab, a designated water resources teaching lab, two full-time staff technicians, and the Water Quality Core Facility). The proposed program will provide opportunities to expand its impact in thematic areas in which the Tickle College of Engineering (TCE) offers expertise and has the full support of the UT System.

We look forward to receiving an evaluation of the LON by THEC staff.

Sincerely,

Bernie Savarese, Ed.D.
 Acting Vice President of Academic Affairs and Student Success
 University of Tennessee System

CC: Donde Plowman
 John Zomchick
 Matthew Mench
 Chris Cox
 Heather Hartman
 Karen Etzkorn

400 W. Summit Hill Drive (physical) • 505 Summer Place (postal) • UT Tower 125E • Knoxville, TN 37902 • (865) 974-3843
aass.tennessee.edu

Campus Letter of Support

December 21, 2022

Dear President Boyd,

Please accept the attached application for a new BS degree program in Environmental Engineering in the Tickle College of Engineering at the University of Tennessee, Knoxville.

The proposed program will be housed in the existing Department of Civil and Environmental Engineering. The department has offered an MS Environmental Engineering degree program since 1970 and also offers environmental engineering coursework and specializations at the BS and PhD levels. Environmental Engineering is recognized as a distinct discipline by the ABET engineering accreditation board and the National Council of Examiners of Engineers and Surveyors (NCEES). There is no existing BS Environmental Engineering degree in the state of Tennessee, but similar programs in bordering states have enrollments totaling over 900 students. Likewise, many peer institutions have robust enrollments in BS Environmental Engineering programs. UTK student surveys indicate strong demand for the program and job market surveys and letters of support from specific employers show strong demand for environmental engineering graduates. The program can be successfully offered using current faculty, staff, and facility resources.

The curriculum for this new BS Environmental Engineering has been reviewed and approved by the department and college. It is currently under review by the appropriate campus-level bodies on the Knoxville campus and has the full support of campus administration. At this time, we request transmission to THEC for approval. Please contact me if you have any questions or need additional documentation.

Thank you in advance for your attention to this matter.

Sincerely,

John Zomchick
Provost & Senior Vice Chancellor

CC: Donde Plowman
Bernie Savarese
Karen Etzkorn
Matthew Mench
Chris D. Cox

Office of the Provost and Senior Vice Chancellor
527 Andy Holt Tower, Knoxville, TN 37996-0152
865-974-2445 865-974-4811 fax provost@utk.edu

Flagship Campus of the University of Tennessee System

Section II: Background

Background Concerning Academic Program Development

The Department of Civil and Environmental Engineering (CEE) at The University of Tennessee offers a nationally ranked BS degree in Civil Engineering, an MS degree in Civil Engineering, and a Ph.D. degree in Civil Engineering. The BS degree in Civil Engineering (BS CE) requires that students be broadly educated in all six subdisciplines of Civil and Environmental Engineering before they choose specific specialty areas in two areas during the last academic year of their program. The six subdisciplines include (1) Structural, (2) Geotechnical, (3) Transportation, (4) Construction, (5) Environmental, and (6) Water Resource Engineering. Environmental Engineering and Water Resource Engineering are colloquially known as the “wet side” of the Civil Engineering discipline, while the other subdisciplines are referred to as the “dry side.” Under our current undergraduate curriculum, BS CE students take all six intro-level courses and then, in consultation with their advisor and faculty mentors, select second-level courses in at least two specialty areas, often in synergistic pairs (e.g., Structures/Geotechnical, Water Resources/Environmental).

As noted, the department offers MS degrees in both Civil Engineering and Environmental Engineering. The MS degree in Environmental Engineering (MS ENVE) was established in 1970, recognizing the need to educate and train engineers in specific skills related to protecting human health and the environment from the effects of pollution. Since its inception, the MS degree program has encompassed both the Environmental Engineering and Water Resources subdisciplines. Interested students can also earn a degree in Civil Engineering at the doctoral level with specializations in Environmental Engineering or Water Resources.

One of the challenges to recruiting undergraduate students who want to pursue Environmental or Water Resources Engineering (ENVE) disciplines is that the current BS CE program lacks sufficient opportunities to develop in-depth knowledge in those areas. This issue presents two concerns. First, many students interested in ENVE topics are less interested in enrolling in a degree program weighted so heavily in course requirements on the “dry side” topics, like structural engineering. As such, students interested in Environmental Engineering may choose different institutions outside of Tennessee, such as Alabama, Clemson, the University of Georgia, Georgia Tech, Missouri University of Science and Technology, or North Carolina State (See Table 1 for enrollment data). Additionally, UT students interested in Environmental Engineering may select different degree programs that do not fully align with their interests. For example, they may choose degree options in Biosystems Engineering, Chemical Engineering, or even a non-engineering degree like Environmental Science. We expect that offering a focused BS ENVE will increase enrollment and retention by better-placing students in a degree program that fits their interests and attracting students who otherwise leave the state to pursue ENVE programs at other institutions.

Overall, establishing a BS ENVE program at The University of Tennessee will significantly boost both our undergraduate and graduate programs of study by providing opportunities to grow student enrollment. We have also recently filled a new faculty position allocated to the department to support the proposed BS ENVE program. The growth in students and visibility that comes from starting a new degree program can directly lead to improved US News rankings through growth in

reputation. Second, a BS ENVE degree will produce graduates prepared to address numerous societal and environmental issues at the local, state, regional, and national levels.

The environmental challenges faced by our society have become increasingly complex during the last 50 years. For example, a recent report from the *National Academies*¹ identified the following grand challenges for environmental engineering:

- Create sustainable food, water, and energy
- Curb climate change and adapt to its impacts
- Design a future without pollution or waste
- Create efficient, healthy, resilient cities
- Foster informed decisions and actions

The *National Academies* study does not expect that environmental engineers will be able to solve these problems independently; instead, they will play a role in solving them by working in partnership with other STEM professionals, policymakers, and affected communities. The BS ENVE curriculum will provide more specialized skills to the area of study not included in the traditional BS CE curriculum, allowing graduates to contribute to these grand challenges.

Purpose and Nature of Academic Program

The BS ENVE program will expand on the existing strengths of the departmental faculty and potentially offer opportunities to expand expertise in thematic areas in which the Tickle College of Engineering (TCE) offers expertise. The departmental faculty have approved a proposed curriculum for the BS ENVE degree, which will include fundamental topics such as fluid mechanics, environmental chemistry, microbiology, fate and transport of environmental pollutants, environmental systems engineering, and risk assessment, as well as applied topics such as hydrology, water resources engineering, water, and waste treatment, air pollution control, solid and hazardous waste management, and energy systems. The development of professional skills in communication, teamwork, ethics, public policy, and project management will also be integrated throughout the curriculum. The program will culminate in a capstone design project. This project will be delivered through a two-semester course sequence patterned after the CE 399S (1 credit hour) and CE 400 (3 credit hour) sequence in our BS CE program. The first course focuses on project scoping, community outreach and engagement, professional communication, and reflection, while detailed engineering design takes place during the second semester. This curriculum will satisfy the general and program-specific criteria of ABET and the Volunteer Core general education requirements. The program will also prepare students to pass the Environmental Engineering Fundamentals of Engineering Exam administered by the National Council of Examiners for Engineering and Surveying.

We anticipate a potential program expansion to support specific regional needs and institutional strengths, including atmospheric science, watershed and river management, hydropower, and

¹ National Academies of Sciences, Engineering, and Medicine 2019. *Environmental Engineering for the 21st Century: Addressing Grand Challenges*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25121>.

nuclear decommissioning and waste management (currently a minor in partnership with Nuclear Engineering). These distinct strengths could improve recruitment considerably compared to other programs while addressing the regional needs of the state.

The primary target population for the program includes traditional first-year college students and transfer students from community colleges. In the TCE in recent years, external transfer students have numbered fewer than 10% of new students coming to the college. Nevertheless, CEE considers transfer students a vital constituency and has developed transfer pathways for its BS CE program in partnership with other TN institutions. We would develop similar pathways for the new BS ENVE program. The program will be fully delivered on the Knoxville campus. Like other BS programs within the Tickle College of Engineering, student outcomes will satisfy both general and program-specific criteria of ABET. The criteria are listed below as general and program-specific criteria.

Alignment with State Master Plan and Institutional Mission

State Master Plan²

An explicit goal of the 2020 update to THEC's State Master Plan is to "increase enrollment in majors leading to high-demand jobs." The proposed BS ENVE degree program supports this goal in several ways. There is a severe workforce shortage in civil engineering and construction. The THEC-TSAC report "Improving the Pipeline for Tennessee's Workforce: Academic Supply for Occupational Demand Report 2022"³ lists Civil Engineering as one of the most in-demand STEM majors in Tennessee, with 1,110 unique job postings and 1,741 hires of civil engineers in 2020. Still, the supply of civil engineers cannot keep up with the demand, with all our graduates having jobs months before graduation. The recent federal infrastructure bill will only increase demand for Civil Engineers for the foreseeable future. How can the BS ENVE degree help this situation? Many civil engineers work to design and provide water supply, wastewater supply, and stormwater infrastructure. Our BS ENVE grads will also possess these skills. Moreover, our research shows that most students likely to enroll in the BS ENVE program will be unlikely to enroll in a traditional BS CE program. Therefore, by offering a BS ENVE, we will increase the total number of engineers able to deliver new and improved infrastructure to Tennessee and the nation.

Another high-demand occupation listed in the THEC-TSAC report is "Environmental Scientists and Specialists, Including Health."⁴ A BS in Environmental Engineering is often among the preferred degrees for this kind of position. Finally, the 2019 Tennessee Department of Labor and Workforce Development report "The Demand for STEM Occupations in Tennessee"⁵ reports that Environmental Engineers are expected to increase by 15.64% from 1151 in 2016 to 1331 in 2026. There are no existing BS Environmental Engineering degree programs in TN to meet this need.

² <https://www.tn.gov/content/dam/tn/thec/bureau/research/other-research/master-plan/finalmp.pdf>

³ <https://www.tn.gov/content/tn/thec/research/supply-and-demand.html>

⁴ Ibid.

⁵ <https://www.jobs4tn.gov/admin/gsipub/htmlarea/uploads/LMI/Publications/STEMReport2019Updated.pdf>

In the State’s Postsecondary Education Master Plan (Postsecondary Attainment in the Decade of Decision 2015-2025)⁶, “Drive to 55” aims to increase the percentage of Tennesseans who hold postsecondary degrees. The plan requires increased degree production, and part of that plan can include offering degrees in the state that do not exist, thereby increasing retention of Tennesseans in in-state degree programs. Part of this drive is preparing students to succeed in STEM-oriented fields. The Drive to 55 focuses explicitly on identifying barriers to achievement for underrepresented students or other “focus populations.” Providing degree programs that align better with student interests could bridge that gap. For example, women and minorities are underrepresented in engineering, yet in environmental engineering programs at other institutions, women make up about 50% of the student body (Table 2). Environmental engineering could be a bridge to increase the success of underrepresented students at the college level. Our department’s history of successfully matriculating and graduating transfer students also enhances the accessibility of the program to lower-income and less-prepared students who often begin their college careers at community colleges.

The University of Tennessee Institutional Mission and Visions

This program aligns well with the University of Tennessee’s strategic plan⁷. Specifically, the BS ENVE degree will: 1) *Enhance Educational excellence* by offering a new high-demand degree program that will increase enrollment, degrees awarded, and diversity in TCE. 2) *Expand research capacities* through the new female faculty member hired to support the program who brings a new research field (carbon storage and reuse) to UT and increases faculty diversity in TCE, and 3) *Foster outreach and engagement* by addressing grand challenges facing TN through our teaching, research, and outreach to the community.

The BS ENVE degree program also contributes to all five goals in UTK’s strategic vision⁸.

- Goal 1. CULTIVATING THE VOLUNTEER EXPERIENCE. The BS ENVE will provide access to a degree not currently available anywhere else in Tennessee, enhancing enrollment at UTK by offering a new degree that addresses significant challenges affecting every Tennessean and people worldwide.
- Goal 2. CONDUCTING RESEARCH THAT MAKES LIFE & LIVES BETTER. We have hired one new faculty member to support the new degree program. Her carbon storage and reuse research has global implications in sustaining our way of life, mitigating climate change, and ensuring economic prosperity in the coming decades. Our department will continue its strong track record of undergraduate research by introducing BS ENVE students to research opportunities.
- Goal 3. ENSURING A CULTURE WHERE VOL IS A VERB. As shown later in Table 2, women are often drawn to environmental engineering as a field in which they are highly motivated to make a difference. Our program will provide this opportunity, thereby increasing the diversity of the TCE enrollment. Within the CEE department, we envision

⁶ <https://www.tn.gov/content/dam/tn/thec/bureau/research/other-research/master-plan/MasterPlanSummary.pdf>

⁷ https://plan.tennessee.edu/wp-content/uploads/sites/38/2022/05/Strategic-Plan-Update-Final_5_19_22.pdf

⁸ <https://plan.tennessee.edu/wp-content/uploads/sites/38/2022/05/strategic-vision-2021-UTK.pdf>

that this greater diversity will, over time, be transformational to our overall culture, thereby increasing the respectfulness and inclusiveness of our entire community.

- Goal 4. MAKING OURSELVES NIMBLE & ADAPTABLE. Environmental engineering has been interdisciplinary and collaborative since its emergence at the intersection between civil engineering and public health in the early 1900s. This spirit of collaboration continues through our proposed curriculum, which includes required technical courses from ten different units outside of CEE, all of whom will benefit from the increased enrollment in their courses. Furthermore, our faculty researchers have a strong track record of collaborative research.
- Goal 5. EMBODYING THE MODERN R1, LAND-GRANT UNIVERSITY. Tennesseans are rightfully proud of our state's natural beauty. At the same time, Tennesseans are looking forward to increased prosperity as our state seeks to continue its track record of drawing new industries to the state. Environmental Engineering serves to protect human health and our natural environment from hazardous byproducts associated with our way of life in ways that ensure economic growth and prosperity may continue. Our faculty and students seek to continue our strong engagement with the community to educate, empower, and work alongside them to benefit Tennessee and its citizens.

College and Departmental Mission and Vision

Both the TCE and CEE are currently developing strategic plans that align with the UTK strategic vision. Therefore, demonstrating that the BS ENVE contributes to UTK's strategic vision ensures that it will also align with the college and department-level strategic plans. TCE has already demonstrated that the BS ENVE degree aligns with its strategic goals by funding a faculty line needed to develop and deliver the degree program.

Institutional Capacity to Deliver the Proposed Program

The University is well-positioned to support this degree program through current resources. Several current members of the faculty will support the BS ENVE while they continue to support the BS CE program. These include two governor's chairs, the department head, six additional tenure-line faculty, and a PhD-level staff member who teaches two labs. In addition, the department has been approved to search for a full-time lecturer and the Goodrich Chair of Excellence, which represents two vacant lines that recently opened due to the faculty members' previous departure. Once these two open positions are filled, we anticipate that the current faculty will be sufficient to deliver the program. The faculty group described above represents a net increase of one faculty position above the historical size of the Environmental/Water Resources faculty. The new faculty member has already been hired, and the funds have been committed. Based on the above, the program's costs will be calculated based on a net addition of one faculty line. The department's MS in Environmental Engineering, established in 1970, demonstrates the long-term stability of educational programs in environmental engineering within the department and establishes name recognition for the major. There is also existing infrastructure on campus to support the program, including existing environmental engineering research labs and equipment, a fully-equipped environmental teaching laboratory, a designated water resources teaching

laboratory in the John D. Tickle building, two full-time staff technicians, and the Water Quality Core Facility. Additionally, campus research centers such as the TN Water Resources Research Center, the Institute for a Secure and Sustainable Environment, the Center for Environmental Biotechnology, the Baker Center for Public Policy, and the Bredesen Center for Interdisciplinary Research and Graduate Education are available to support interdisciplinary interests of faculty members and students.

CEE has one of the strongest records of collaboration in teaching, extracurricular student activities, and research on campus. We first outline several areas of existing collaboration with other academic units and then elaborate on how these collaborations will be enhanced by a BS ENVE program.

Collaboration in Minors and Dual Degree Programs

- CEE offers a minor in Environmental Engineering. Students in CE, BSE, and CEB commonly complete it.
- BS CE students frequently select the interdisciplinary undergraduate and graduate minors in Watersheds. The program is hosted in Biosystems Engineering, and CE and BSE faculty members have chaired the faculty watershed minor committee.
- CEE has partnered with Nuclear Engineering (lead department) on the Nuclear Decommissioning and Environmental Management minor.
- CEE strongly supports the new college-level Engineering for Sustainability minor started in 2022 by teaching EF 305 Engineering Approaches to Sustainability and managing the program's administration.
- CE students frequently minor in Business.
- CEE is a participating department in the Intercollegiate Graduate Minor in Statistics and Data Science.
- CEE is a participating department in the Intercollegiate Graduate Minor in Computational Sciences.
- CEE partners with the Haslam College of Business to offer two Dual degree programs (MS CE/MBA and MS ENV/MBA)

Collaborations in Extracurricular Activities

- Hydrolunteers is an interdisciplinary student group that serves as the student chapter for the American Water Resources Association (AWRA) and the American Water Works Association/Water Environment Association. Students from CEE, BSE, LA, and EPS are among the members; a CEE faculty member serves as a faculty mentor.
- CEE students and faculty are well represented at the annual Watershed Symposium, organized by the watershed faculty associated with the watershed minors.
- The College of Architecture and Design is leading the formation of a Knoxville chapter of ACE, a mentoring program for high school students with a potential interest in Architecture, Construction, and Design. CEE and the Construction Science Program in BESS are additional partners in this effort.

Collaboration in Research

Multidisciplinary research is a distinguishing characteristic of the CEE department. It is active in various research centers and collaborates with numerous departments across campus. Research proposals led by CEE faculty with outside collaborators are shown in Figure 1, while collaborations with CEE faculty led by other units are shown in Figure 2. All told, over the six years, the number of funded collaborative research projects has remarkably averaged more than 10 per CEE tenure-line faculty member.

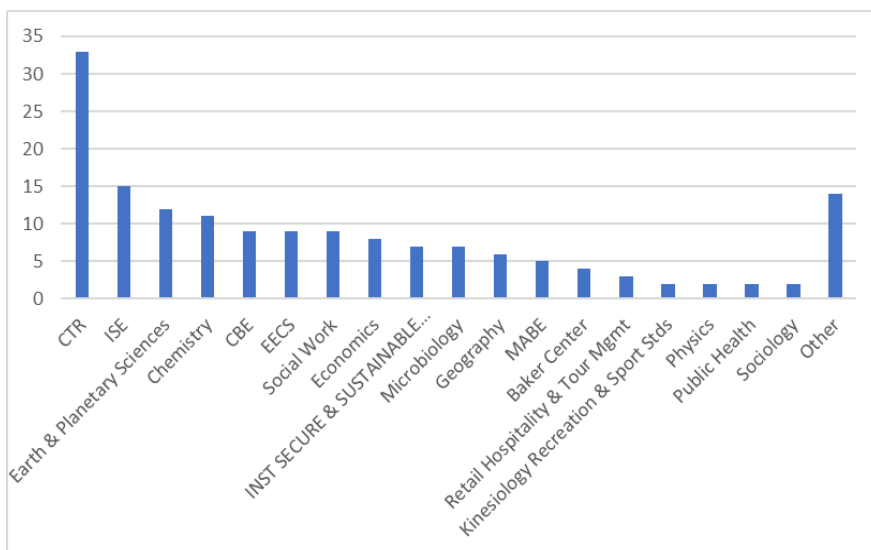


Figure 1. Number of research proposals led by CEE faculty with collaborators from researchers outside the department (2013-2018).

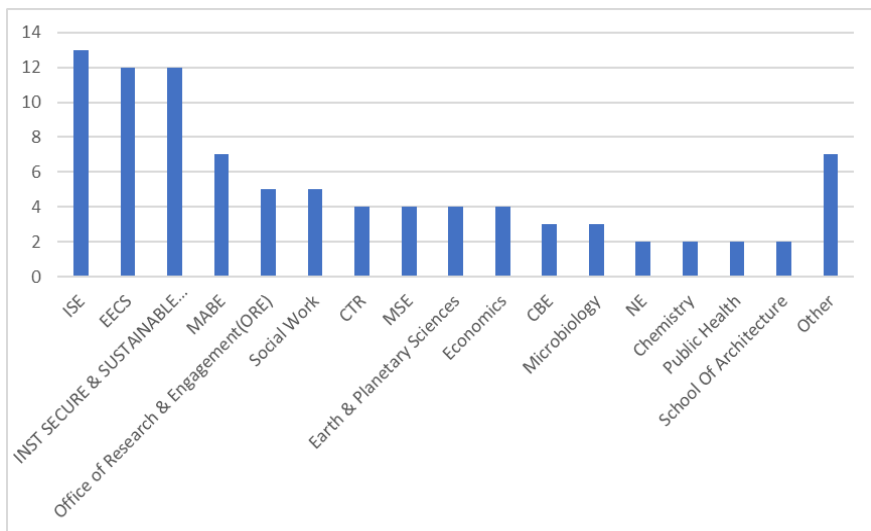


Figure 2. Research proposals led by researchers from other units with CEE collaborators.

As we formulate the curriculum for a BS ENVE program, we intend to continue our stellar record of collaboration with others on campus. Future BS ENVE students will likely increase enrollments in the Nuclear Decommissioning and Environmental Management minor, the Watershed minor, and the Engineering for Sustainability minor, as well as increase enrollment in related classes. The inherently interdisciplinary nature of the environmental engineering discipline is reflected in the proposed curriculum for the BS ENVE degree, which includes required classes from MATH, CHEM, STAT, ME, EF, BSE, GEOL, and GEOG, in addition to general education courses. Enrollment of BS ENVE students in courses offered by other units efficiently utilizes resources outside of CEE, improves the interdisciplinary training of our students, and provides tuition income to colleges outside of TCE through the new UTK budget allocation model.

Existing Programs Offered at TN Institutions

There are currently no existing BS ENVE programs in the state of Tennessee.

Accreditation

ABET General Criteria⁹

The Accreditation Board of Engineering and Technology's General Criteria include the ability to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.

ABET Program Criteria

The Accreditation Board of Engineering and Technology's Program Criteria include the following:

The curriculum must include: a) Mathematics through differential equations, probability and statistics, calculus-based physics, chemistry (including stoichiometry, equilibrium,

⁹ <https://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2022-2023/>

and kinetics), earth science, biological science, and fluid mechanics. b) Material and energy balances, fate and transport of substances in and between air, water, and soil phases; and advanced principles and practices relevant to the program objectives. c) Hands-on laboratory experiments, and analysis and interpretation of the resulting data in more than one major environmental engineering focus area, e.g., air, water, land, and environmental health. d) Design of environmental engineering systems that includes considerations of risk, uncertainty, sustainability, life-cycle principles, and environmental impacts. e) Concepts of professional practice and project management, and the roles and responsibilities of public institutions and private organizations pertaining to environmental policy and regulations.¹⁰

We do not expect the BS ENVE program to affect our current BS CE program significantly but will complement it. There is an expressed interest by some current BS CE students to continue in that degree program while also taking courses in Environmental and Water Resource Engineering (these students prefer a general CE degree education), and we currently intend to maintain our six specialty areas. The proposed curriculum cross-lists several courses between the two curricula. We will also continue to offer the Environmental Engineering Minor to students not enrolled in the BS ENVE program.

Administrative Structure

The BS ENVE program will be administered through the existing academic structure of the University of Tennessee, Knoxville. The Department of Civil and Environmental Engineering in the Tickle College of Engineering will offer the degree. Dr. Chris Cox, the Civil and Environmental Engineering Department Head, will direct the program. The department head reports to the Dean of the Tickle College of Engineering, Dr. Matthew Mench. The organizational structure is illustrated in Figure 3:

¹⁰ Ibid.

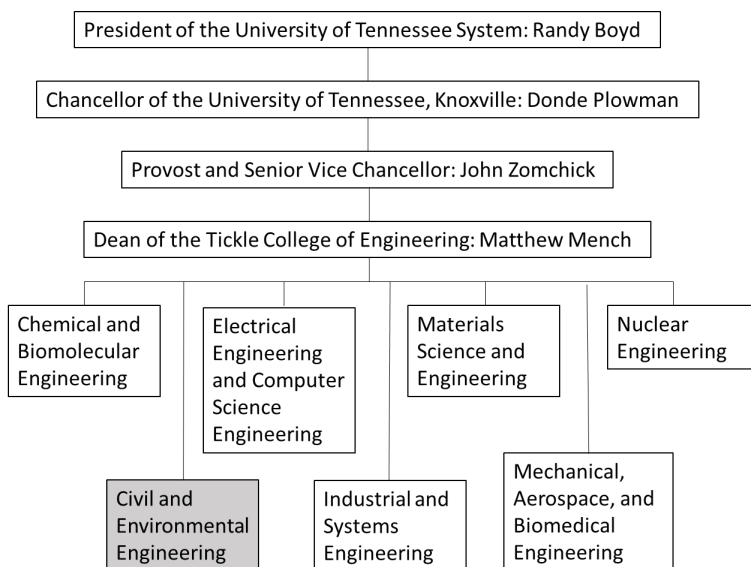


Figure 3. Simplified organizational chart. The Department of Civil and Environmental Engineering will administer the BS ENVE degree.

Section III: Feasibility Study

Student Interest

To assess student interest in a potential BS ENVE degree program, we examined BS ENVE enrollments at schools in states bordering Tennessee and at aspirational peer institutions. We also conducted separate surveys of first-year students enrolled in the Tickle College of Engineering and students currently enrolled in CEE. Enrollments in BS ENVE degree programs in surrounding states are summarized in Table 1. The data show significant regional student demand for this degree program and highlight the opportunity to recruit students from bordering states that do not have Environmental Engineering programs, including Arkansas, Kentucky, Mississippi, and Virginia.

Table 1.

Enrollment in BS ENVE programs in states bordering Tennessee.

State	Institution	BS Program Enrollment 2020*
Alabama	University of Alabama	89
Arkansas	None	0
Georgia	Georgia Tech	218
	Kennesaw State	101
	Mercer	33
	University of Georgia	163
Kentucky	None	0
Missouri	Missouri Science and Technology	115
Mississippi	None	0
North Carolina	North Carolina State	168
South Carolina	Clemson	81
Tennessee	None	0
Virginia	None	0

*Online Profiles American Society for Engineering Education <http://profiles.asee.org/>

To determine the potential enrollment and demographics of students enrolling in a BS ENVE program, we examined enrollments in BS CE and BS ENVE degree programs at peer institutions. We define peer CEE programs as those ranked 17-30 by US News among public institutions (this included 18 institutions because of ties in ranking). Among these 18 peer institutions, only the University of Maryland, the University of Virginia, Auburn, and the University of Massachusetts—Amherst do not offer BS ENVE programs. Three other institutions, Iowa, Iowa State, and Arizona State University have begun offering BS ENVE programs since 2015.

Enrollment data for BS ENVE and BS CE programs at peer institutions are summarized in Table 2.

Table 2.

Enrollments in BS CE and BS ENVE Programs At Peer Institutions.

School	CE	ENVE	ENV/CE	CE %F	ENVE %F
North Carolina State University	464	168	36%	25%	51%
University of Florida	307	151	49%	29%	68%
Arizona State University	534	159	30%	25%	63%
Ohio State University	536	157	29%	21%	48%
University of California—Irvine	376	118	31%	32%	58%
Iowa State University*	523	23	4%	24%	43%
University at Buffalo—SUNY	428	120	28%	18%	55%
Colorado School of Mines	316	174	55%	37%	65%
Colorado State University	371	181	49%	25%	51%
Michigan State University	384	207	54%	22%	51%
Oregon State University	315	78	25%	24%	47%
Missouri University of Science & Technology	405	115	28%	24%	58%
University of Arizona	221	52	24%	24%	58%
University of Iowa	180	53	29%	22%	49%

*Note: CE %F and ENVE %F represent the percentage of enrollees who are female in CE and ENVE degree programs, respectively. *New program began in 2021. Online Profiles American Society for Engineering Education <http://profiles.asee.org/>*

Across all peer institutions with BS ENVE degree programs, the enrollment in that program is about one-third of the corresponding BS CE program. Excluding the new program at Iowa State, BS ENVE enrollment ranged from 24% to 55% of BS CE enrollment. Female students (shown as F in Table 2) make up 56% of all students enrolled in BS ENVE programs (ranging from 43% to 65%) compared to an average of 25% of women in the corresponding BS CE program (ranging from 18% to 37%). Across all established peer programs, BS ENVE enrollment is sufficient for a viable degree program and is likely to attract more women than the BS CE program.

To assess interest in a BS ENVE program among students currently enrolled in the TCE, we surveyed two groups that would provide the initial cohort of students to populate the degree program.

1. Existing CEE students interested in Environmental or Water Resources Engineering

The first group surveyed was CEE students who have selected either Water Resources or Environmental Engineering as their specialty-area electives, usually chosen in their junior or senior year (Figure 3). These students have self-selected interests in those two subjects and would be likely candidates for the BS ENVE program. We excluded students who did not select specialty areas in Environmental Engineering or Water Resources since they are not likely interested in a

stand-alone BS ENVE program. The survey was distributed to 12 students enrolled in Water Resources II in the Fall of 2018 and 18 in Environmental Engineering II in the Spring of 2019. Of those, we received 25 responses, an 83% response rate. Of the respondents, 60% decided to specialize in ENV or WR engineering before or when they entered the CEE department. When asked to gauge their interest in and BS ENVE degree relative to the BS CE, more than half (14/25) said they would be Extremely Interested or Very Interested in that degree program, and an additional 9/25 reported moderate or slight interest in the proposed program (Figure 4).

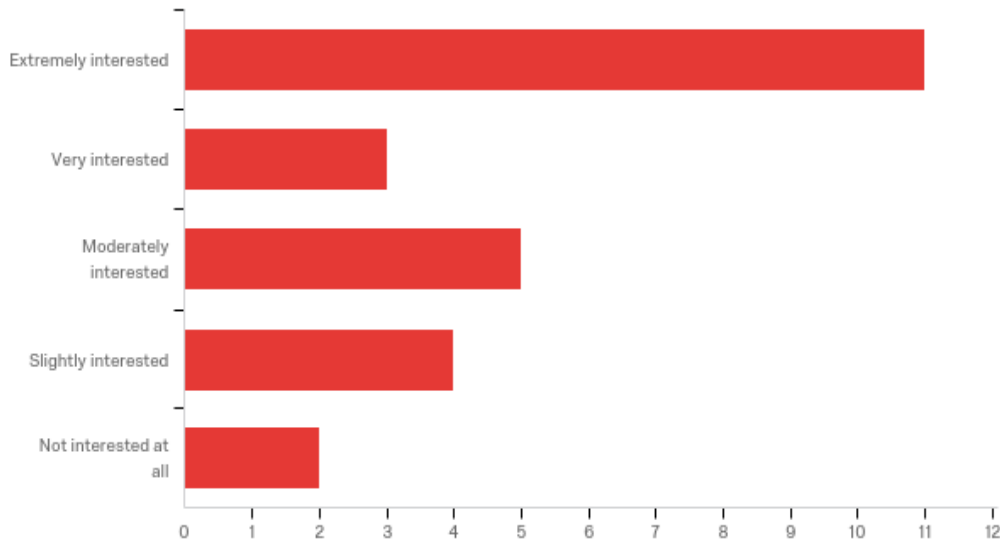


Figure 4: Q13 - Compared to a general Civil and Environmental Engineering degree, how interested would you be in a standalone Environmental Engineering BS program (not a concentration) that would allow you to focus on environmental and water resources training that would NOT include broader Civil Engineering disciplines in construction, geotechnical, structures and transportation?

From Fall 2017 to Fall 2019, 53 students selected either Environmental Engineering or Water Resources as one of their specialty areas for 165 total BS CE graduates. This figure of 53 students, or roughly one-third of the CE graduates, represents the potential market from students already in our department for a BS ENVE. Of these, 18 students selected both specialty areas, while the others selected either Environmental Engineering or Water Resources and another specialty in CE. Sometimes scheduling conflicts make it difficult for students to choose the desired secondary specialty area, and they make this selection based on convenience. We believe these data indicate clear interest among existing Junior and Senior CE students for an ENVE BS program. At the same time, there will likely continue to be students who select these specialty areas while remaining in the BS CE degree program.

2. Incoming Students (first- and second-year students)

To assess interest from students outside the department, we also surveyed first- and second-year students in the TCE Engineering Fundamentals courses. This process allowed us to identify

students when they were choosing majors and gauge their awareness and interest in Environmental Engineering degree programs. The survey was distributed to 672 students in EF 151 and EF 152, and we received 496 responses (74% response rate). The questions were worded to evaluate students' overall level of interest in the TCE for a BS ENVE program if it did not require typical CE coursework (e.g., Structural Engineering or other “dry side” courses). This large cohort included all TCE majors, so many of them (e.g., electrical engineers) did not show any interest in an ENVE BS program. Forty-five freshmen (including ten who had declared an interest in CE) stated they would be *extremely interested* in a BS program. This number would likely be higher if all students had responded to the survey. In summary, a BS ENVE program could generate enough first-year student familiarity and interest to support itself as a viable program among current TCE students. On average, students across all Engineering majors (except declared CE students) indicated that they would be more interested in a BS ENVE program than the current BS CE program.

Students outside of TCE or UT

Additionally, two sources of student populations for program enrollment are challenging to assess. However, these sources have the potential to attract additional prospective students. First, students outside TCE could be interested in a BS ENVE program. We did not conduct university-level surveys.

A more significant draw will be students recruited from across the state or region that would not have considered UT because it lacked a BS ENVE program. It is not easy to know how many students we can attract currently selecting other institutions. However, other BS ENVE programs in the region have large student enrollment (Table 1), indicating significant demand.

Local and Regional Need/Demand

National demand for Environmental Engineers is strong. The US Bureau of Labor Statistics indicates that there were 52,300 Environmental Engineering Jobs in 2020, an increase of 1,900 during the last ten years. They further estimate that environmental engineering jobs will increase by another 4% over the next decade. The estimated annual salary for an environmental engineer is \$96,820 per year, which is slightly greater than that for civil engineers (\$88,050).¹¹

As mentioned previously, environmental engineers often fill positions described as “Environmental Scientists and Specialists, Including Health,” which are identified by the state of Tennessee as high-demand occupations¹². Likewise, Tennessee has also projected that Environmental Engineers are expected to increase by 15.64% from 1151 in 2016 to 1331 in 2026.¹³ There are no existing BS Environmental Engineering degree programs in TN to meet this need.

In the sections below, we share results from our analysis of current regional job openings, a survey of local employers, and letters of support from local, regional, and national employers. These lines

¹¹ <https://www.bls.gov/ooh/architecture-and-engineering/environmental-engineers.htm>

¹² Op. Cit. <https://www.tn.gov/content/tn/thec/research/supply-and-demand.html>

¹³ Op. Cit. <https://www.jobs4tn.gov>

of evidence confirm that the workforce demand for environmental engineering graduates is strong, warranting the first such program in Tennessee.

Employer Demand

To assess the regional job market for Environmental Engineers, we conducted two job searches for Environmental Engineering positions on LinkedIn with the following parameters:

- Experience Level: Entry Level
- Job Type: Full Time
- Locations:
 - Search 1: Tennessee
 - Search 2: Atlanta GA, Charlotte NC, Raleigh NC, Austin TX, Dallas TX, Houston TX
- Job Function: Analyst, Consulting, Research, Engineering, and Project Management
- Title: Environmental Engineer, Environmental Specialist, Civil Engineer
- Date: The searches were conducted on November 1, 2022

Search 1 focused on Tennessee and returned 64 jobs, while Search 2 focused on major metropolitan areas in the southeast region, returning 212 jobs. Each of these listings was screened to identify jobs for which a BS in Environmental Engineering fulfills the educational requirement, yielding more than 25 positions in Tennessee and 100 positions regionally. Screenshots from the two searches and a list of 30 example positions are listed in Appendix C. The search demonstrates a strong employment market for degree holders with a BS in Environmental Engineering in Tennessee and regionally.

Strong employment prospects for our MS ENVE graduates over many years provide additional evidence of employer demand for Environmental Engineers. Our graduates have gone to work for employers such as private consulting and industry, as well as utilities and government agencies (ORNL, TVA, NOAA, the Southeast Regional Climate Center, US Army Corp of Engineers, the USGS, and the Tennessee Department of Environment and Conservation).

One remaining question we addressed through a survey was employer preference between ENVE and CE at the undergraduate level. Some of our civil engineering graduates are hired to work in environmental engineering positions. We wanted to assess the extent to which a BS ENVE degree would expand employment opportunities for graduates compared to a BS CE degree and gain employer perspective on future needs. We sent surveys to 15 employers active in the region and known to hire environmental engineers, including a mixture of private and public-sector employers. Most employers selected for the survey hire heavily from UTK but may be less familiar with BS ENVE graduates since we do not have such a program. We received responses from 11 of the 15 employers. Results from the survey are summarized in Appendix D. Major takeaways from the employer survey include the following points:

- 1) There is a regular and steady demand for environmental engineers.
- 2) Currently, these employers hire mostly BS CEs to fill vacant positions.

- 3) Eight employers would prefer to hire a BS ENVE to fill these positions, while the other three would still prefer to hire employees with BS CEs.
- 4) Traditional CE topics, such as surveying and geotechnical engineering, are useful for much environmental engineering work and should at least be available to BS ENVE students as electives.
- 5) 6 of the 11 employer respondents foresee increased demand for environmental engineers.
- 6) 10 of the 11 employer respondents would similarly compensate employees holding a BS CE and BS ENVE.

Even considering that BS degree graduates from both Civil Engineering and Environmental Engineering programs may be viewed similarly by many employers, the BS ENVE degree represents tremendous value to employers by drawing more students to water and wastewater treatment and water resources. There is currently a tremendous shortage of graduates to fill entry-level positions in this industry. Without the availability of a BS ENVE degree, these students are likely to pursue other fields. The visibility of the BS ENVE degree will attract more students to a high-demand profession, thereby contributing a solution to workforce shortages in infrastructure engineering.

Community and Industry Partnerships

The Department of Civil and Environmental Engineering has rich and long-standing relationships with the community and industry, which we will leverage to support the new degree program. These include local- and state-based **research sponsorship relationships** with the Great Smoky Mountain National Park, the Tennessee Department of Environment and Conservation, the Tennessee Department of Transportation, and several local industries. We partner with many consulting engineering companies, local utilities, state agencies, industries, and non-profit groups each year on capstone senior design projects. We anticipate expanding these partnerships to support the environmental engineering capstone design sequence. Local parent organizations, including the Knoxville Branch of the American Society of Civil Engineers, the Tennessee-Kentucky Water Environment Association, the Tennessee Section of the American Water Resources Association, and the Tennessee Society of Professional Engineers, support the department student chapters of professional organizations. Many local, regional, and national employers provide **internships, cooperative education, and full-time post-graduate employment opportunities.**

Letters of support from a sampling of employers demonstrating the high demand for graduates and willingness to support the program are provided in Appendix A.

Section IV: Enrollment and Graduation Projections

We estimate that each entering first-year class will have 30 BS ENVE students. This estimate is conservative based on the survey of current TCE first-year students and assuming new students from outside the TCE and UTK select this program. We also assume that, during the program's first year (Fall 2023), we will recruit 20 sophomores from the previous year's first-year class.

We developed an enrollment model based on UG data from the BS CE program from 2012 to 2022. In developing the model, we tracked the enrollment behavior of each student to gain deep and high-confidence insights into factors that govern enrollment on a year-by-year basis. We assumed that the trends observed in the BS CE program would be our best estimate of enrollment patterns in the BS ENVE degree. During this period, we identified the following trends that form the basis of the model:

- Each year, 30 new students will enter the program as first-year students.
- On average, the second-year class is 69%, as large as the first-year class from the previous year. The decrease in enrollment occurs due to the common practice of TCE students to switch majors in their first year and because some first-year students take more than one academic year to earn more than 30 credit hours.
- On average, the Junior class is 118%, as large as the Sophomore class from the previous year. The net increase occurs because of a net gain from transfer students (both internal to UTK and external) and a few students who have less than 30 credit hours after their first year but more than 60 credit hours after their second year, thereby never showing up as Sophomores in university data.
- The second and third assumptions are equivalent to the attrition of five students per year.
- On average, 60% of Seniors (defined as students having over 90 credit hours at the beginning of the fall semester) graduate by the end of that academic year. The remaining students require additional time to complete graduation requirements. We also identified some students that entered the BS CE degree program with more than 90 credit hours. These are typically second-degree students or students who did not complete their degrees when enrolled in a different major earlier in their academic careers. Together, these factors make the Senior class the largest of the four categories.
- We estimate the number of Seniors in any given by:

$$\text{Seniors (previous year)} - \text{graduates (previous year)} + \text{juniors (previous year)}$$

Based on these assumptions, the BS enrollment during the program's first five years is projected as described in Table 3.

Table 3.*Projected Enrollment in the BS ENVE Program During the First Five Years Of The Program.*

Year	Academic	Freshmen	Sophomores	Juniors	Seniors	Projected Total Enrollment	Projected Attrition	Projected Graduates
1	2023-2024	30	20	10	0	50	5	0
2	2024-2025	30	21	24	10	75	5	0
3	2025-2026 ¹	30	21	25	24	100	5	14
4	2026-2027 ²	30	21	25	35	111	5	21
5	2027-2028	30	21	25	39	115	5	23

¹Prepare ABET accreditation report; ²ABET accreditation visit

By 2027, the projected BS ENVE enrollment will be approximately 1/3 the enrollment of our current BS CE program, which matches the average ratio of BS ENVE to BS CE students at peer institutions, suggesting that the enrollment projections are reasonable. We also project that 50% of the students will be women, based on the percent female enrollment at peer institutions.

Section V: Projected Costs to Deliver the Proposed Program

The Department of Civil and Environmental Engineering has offered an environmental and water resources-related curriculum for several decades. Therefore, most of the faculty and staff needed to support the program are already in place, as well as the laboratories and equipment. As a result, the projected costs to offer the degree program are modest.

Faculty and Instructional Staff

TCE approved one new faculty line to support the new BS ENVE degree program. That individual, an assistant professor, has already been hired, effective August 1, 2022, and is the basis of new operating expenses. We currently have two open positions for a lecturer and Goodrich Chair, but these are historical positions and require no new resources. After we fill the open positions, we will have sufficient faculty to offer the BS ENVE program.

The new faculty member's final two years of the start-up budget appear as one-time equipment costs in the THEC Financial Projection Form (actual expenditures are likely to be in diverse categories, including equipment, graduate student support, summer faculty salary, and travel). Salaries are calculated from the assistant professor's 2022 base salaries of \$100,000, increasing by 3% per year. Faculty fringe benefit rates are estimated at 33%.

Non-Instructional Staff

We project that an additional academic advisor will be needed to advise students within the program. The projected workload will be approximately 50%, with the other half of the position able to be assigned to other advising responsibilities either within the department or the college. The full-time salary for the position is estimated to be \$48,000, increasing by 3% per year. Staff fringe benefit rates are estimated at 33%.

Graduate Assistants

We have also included expenses related to two new GTA lines (one beginning in year two and the second beginning in year 4) that will likely be allocated to the department in the coming years through the TCE GTA allocation formula. Graduate student tuition is assumed to increase by 3% a year, and health insurance at 8% per year. We also assume that half of the graduate student tuition will be paid by research contracts.

Accreditation

We will seek ABET accreditation for the program in the 2026-2025 academic year. We have budgeted \$6700 for the initial off-cycle accreditation visit, plus \$715 per year in accreditation maintenance costs. These costs were obtained from the ABET website.

Consultants

New program approval requires a visit from an external evaluator. We have budgeted \$2500 for this purpose.

Equipment

No new equipment is required to support the new academic program.

Information Technology

No new information technology is needed to support the new academic program.

Library Resources

No new library resources are required to support the new academic program.

Marketing

We are including \$10,000 for a one-year initial marketing program to develop state-wide awareness of the new program.

Facilities

Existing facilities are sufficient to support the new program.

Travel

Any needed travel expenses to support the new program are included in the accreditation, consulting, and marketing costs described above.

Other Resources

No additional resources are required.

Section VI: Projected Revenues for the Proposed Program

Tuition

Tuition income projections were based on the enrollment shown in Table 3. However, it should be noted that of the students listed in Table 3, we project approximately ten students per class will be students who would have previously enrolled in the BS CE program. The rest will be new students to the department.

We made additional assumptions to obtain the tuition revenue estimates in the TDEC Financial Projection forms. We assumed that students would enroll in both the Fall and Spring semesters and that one-third of graduating seniors would graduate in December (thus, enrolling in only one semester), which is consistent with past trends in the BS CE program. We assume that each student will enroll in nine hours of engineering courses per semester, generating differential tuition income at \$110 per student credit hour. We assume a 3% increase in tuition each year and that about 25% of the students will be out-of-state, consistent with recent trends in TCE (TCE out-of-state enrollment in first-year cohort 2019: 22% 2020: 26% 2021: 30% 2022: 36%).

Grants

New faculty members are expected to conduct externally-funded research. By the end of year five, collectively, the new faculty member allocated to start this new degree program should be generating at least \$250K of research expenditures per year. Assuming an average effective F&A rate of 35% of direct costs on this research, this represents about \$90K per year in F&A. However, since none of these contracts are in place currently, we did not include research funds in either the revenue or expenses portion of the THEC Financial Projection Form.

Our projection indicates that the BS ENVE program will generate excess income each year that can be reallocated to other University and TCE priorities.

Other

We are not anticipating other income sources during the program's first five years.

Appendix A: Letters of Support



ORRCC-22-0732
December 8, 2022

Dr. Chris Cox, Department Head
Department of Civil and Environmental Engineering
John D. Tickle Engineering Building
The University of Tennessee
851 Neyland Drive, Suite 325
Knoxville, TN 37996

Dear Dr. Cox:

Support for Bachelor of Science Degree Program in Environmental Engineering

Please accept this letter in support of the University of Tennessee's plan to develop a Bachelor of Science degree in Environmental Engineering.

UCOR is the prime cleanup contractor for the Department of Energy's Oak Ridge Office of Environmental Management, and our 2,000-strong workforce is tasked with the responsibility to safely manage environmental cleanup and risk reduction across the Oak Ridge Reservation. This \$8.2 billion cleanup over the next decade will include decontaminating, deactivating, demolishing, and disposing of waste, and remediating former nuclear and industrial facilities for future science and national security investments at the Oak Ridge National Laboratory, Y-12 National Security Complex, and the Heritage Center (formerly East Tennessee Technology Park).

UCOR is an economic engine for Tennessee: beyond our 2,000-strong workforce, an analysis by UT's Howard H. Baker Jr. Center for Public Policy determined that our environmental cleanup at the Oak Ridge Reservation has a \$1.3 billion annual economic impact in Tennessee and supports 7,022 full-time jobs. And UCOR's cleanup success at the Heritage Center has also enabled approximately \$500 million in planned investment at the Heritage Center, as well as making Oak Ridge the epicenter of the renaissance of the commercial nuclear industry.

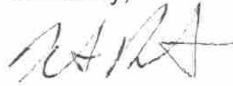
As a corporate partner to the University of Tennessee, we understand that students in the BS Environmental Engineering program will have the option of completing the Nuclear Decommissioning and Environmental Management minor. Our industry would certainly be interested in hiring students with this background, which includes understanding of project management, construction management, and the radiological and environmental risks associated with materials and wastes used in nuclear-related industries. In addition, environmental engineering skills in waste management and multi-media fate and transport and risk assessment are applicable to many of our projects. There is a tremendous unfilled need for engineers with this background, both locally and nationally.

As part of our memorandum of understanding with the university, we would seek to recruit graduates from your program to fill internship, co-op, and entry-level positions in our organization. We would also seek to support your program through promotion of the minor to your students; advice on curriculum development; generation of relevant capstone design projects; and potential research support for faculty who specialize in this area.

Dr. Chris Cox
Page 2
ORRCC-22-0732
December 8, 2022

Please let us know how we can further support the development of your Environmental Engineering degree program.

Sincerely,



Kenneth J. Rueter
President and Chief Executive Officer

KJR:SLD:JSA:vxI

c: J. S. Aylor
H. T. Conner
S. L. Dolynchuk
File—DMC—NoRC



8 December 2022

Dr. Chris Cox
University of Tennessee Knoxville - Civil & Environmental Engineering
427 John D. Tickle
Knoxville, TN 37996-2313

Re: Tennessee Higher Education Commission
BS Environmental Engineering Degree

Dear Dr. Cox:

I write this letter in support of the University of Tennessee's Tickle College of Engineering initiation of a new Environmental Engineering program.

Gresham Smith is a Nashville, TN based architecture, engineering, and planning firm with nearly a national footprint. With more than 1,100 employees, the firm is engaged with clients in aviation, healthcare, manufacturing, commercial development, transportation, and water/environment. Gresham Smith's annual revenue exceeds \$250 million.

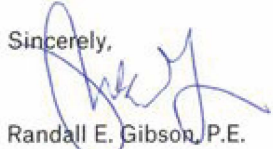
As you are well aware, we consider the University an important industry partner as evidenced by my participation on advisory boards both for the Department of Civil and Environmental Engineering and for the Tickle College of Engineering.

Over the course of the past several years, the largest headwind to our company's growth has been the availability of talent. Given the dynamics in the AEC industry, we foresee this shortage of engineers to continue over a significant period, particularly in light of recent federal funding for infrastructure and green energy projects. In short, the need for infrastructure-related engineers in all experience ranges puts downward pressure on our ability to serve our clients at a time when their needs are increasing. In 2022, we have hired approximately 110 new engineers (including environmental professionals) and still have unmet recruitment needs.

Gresham Smith will stand to benefit from access to an increased pipeline of environmental engineering interns to help us meet the needs of our clients across the State of Tennessee, and the United States.

I would be pleased to address any questions that you may have.

Sincerely,


Randall E. Gibson, P.E.
Chief Strategy Officer

222 Second Avenue South

GreshamSmith.com

Suite 1400

Nashville, TN 37201

Genuine Ingenuity



December 5, 2022

The University of Tennessee – Knoxville
Department of Civil and Environmental Engineering
325 John D. Tickle Engineering Building
851 Neyland Drive
Knoxville, Tennessee 37996-2313

Attention: Dr. Chris Cox, PhD, PE,
Department Head and Robert M. Condra Professor

Reference: Potential BS Degree Program in Environmental Engineering

Dear Dr. Cox:

Thank you for reaching out regarding the University of Tennessee – Knoxville (UTK) Department of Civil and Environmental Engineering's (DCEE) planning for a Bachelor of Science (BS) degree program in Environmental Engineering. This BS program is an interesting development with the potential to assist consulting firms like S&ME address future staffing needs.

Over the last 30 years, S&ME has hired many UTK DCEE graduates for roles in our geotechnical, construction services, civil, environmental, and water resources practices. We appreciate their grounding in civil engineering basics and agility to adapt to our market needs. However, while the need for agility is ever present, as engineering knowledge grows, so does the need for specialization. In the environmental engineering area, S&ME will need new graduates knowledgeable in site assessment, contaminate fate and transport (hydrogeology), solid waste management, stormwater management, vapor intrusion control, air pollution management, and environmental regulations while still having a grounding in traditional civil engineering skills such as surveying, drafting, surface water hydrology and hydraulics, and construction materials properties. Knowledge of the graphical language of engineering drawings and geographic information systems is important, but the ability to communicate in writing and verbally is critical. Students should have occasions in every class to practice communicating.

A BS degree program in Environmental Engineering at UTK DCEE will supply employers with qualified graduates having the specific and general knowledge to be immediately productive but also able to evolve as society's needs change. It will also attract students who may not have considered engineering in general, or civil engineering in particular, to the profession, helping to ease the looming talent shortage. We look forward to learning more about this new program as plans progress. Please let us know how we can be of any assistance.

Sincerely,

S&ME, Inc.

Ken Barry, PE, D. WRE
Technical Principal / Vice President

Gregory B. Page, PE
Principal Engineer



Dr. Chris Cox
 Head and Professor
 Department of Civil and Environmental Engineering
 325 John D. Tickle Engineering Building
 851 Neyland Drive
 The University of Tennessee
 Knoxville, TN 37996

Dear Dr. Cox,

I am writing in support of the University of Tennessee's plan to develop a BS degree in Environmental Engineering. I graduated from UT with a BS in Civil Engineering (2001) and an MS in Environmental Engineering (2004). As such, I am very familiar with the content of your proposed BS Environmental Engineering degree. As a practicing engineer at First Utilities District (FUD) of Knox County, I can attest to the critical role environmental engineers play in providing people access to clean and dependable drinking water and in preserving water quality in our lakes, rivers, and aquifers. The ability to continue to provide these services is dependent upon a continual supply of well-trained engineers with specialized knowledge about environmental engineering.

My awareness of the importance of engineering education has motivated me over the past several years to volunteer my time to support the Civil Engineering 481 Water Resources II class, taught by Dr. John Schwartz and the Civil Engineering capstone design course taught by Dr. Jenny Retherford. To support these classes, I work with the instructors to develop real-world design projects to give practical experiences to students, give guest lectures, and mentor student teams. My understanding is that equivalent courses will be offered to students in the Environmental Engineering degree program and it is my intention to continue to support these classes in a similar manner in future years.

I anticipate that graduates from the proposed BS in Environmental Engineering program will have the knowledge and skills to make strong contributions to the water infrastructure industry. Graduates from an environmental degree program will be in high demand with water utilities such as FUD, regulatory agencies, and consulting engineers.

Please let us know how we can further support the development of your environmental engineering degree program.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark W. McKinney, PE".

Mark W. McKinney, PE
 Capital Engineer Supervisor

November 29, 2022

Dr. Chris Cox
Head and Professor
Department of Civil and Environmental Engineering
325 John D. Tickle Engineering Building
851 Neyland Drive
The University of Tennessee
Knoxville, TN 37996

Dear Dr. Cox,

I am writing in support of the University of Tennessee's plan to develop a BS degree in Environmental Engineering.

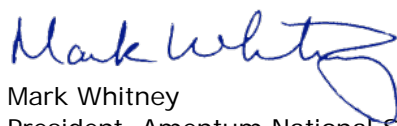
As the President of Amentum's National Security group, I oversee day-to-day operations, manage profit and loss, strategic initiatives, and business development activities for Amentum's work for clients such as the Department of Energy, National Nuclear Security Administration, and the U.S. Army Corps of Engineers across the United States and several other countries around the world. One of the primary capabilities of our organization is associated with managing environmental cleanup for these customers at sites such as the Oak Ridge Reservation (Tennessee), Savannah River Site (South Carolina), and Hanford Site (Washington) to name a few. Given the extremely large market for environmental cleanup that is estimated to range in the hundreds of billions of dollars both here domestically and across the world, having a pipeline of qualified students is imperative to support our company in the decades to come.

As a corporate partner to the University of Tennessee, we understand that students in the BS Environmental Engineering program will have the option of completing the Nuclear Decommissioning and Environmental Management minor. Our industry, and particularly our company, is interested in hiring students with this background, which includes understanding of project management, construction management, and the radiological and environmental risks associated with materials and wastes used in nuclear-related industries. In addition, environmental engineering skills in waste management and multi-media fate and transport, and risk assessment are applicable to many of our projects. There is a tremendous unfilled need for engineers with this background nationally.

As part of our memorandum of agreement with the university, we would seek to recruit graduates from your program to fill internship, co-op, and entry-level positions in our organization. We would also seek to support your program through promotion of the minor to your students, advice on curriculum development, generation of relevant capstone design projects, and potential research support for faculty who specialize in this area.

Please let us know how we can further support the development of your Environmental Engineering degree program.

Sincerely,



Mark Whitney
President, Amentum National Security



August 22nd, 2022

Dr. Chris Cox
Head and Professor
Department of Civil and Environmental Engineering
325 John D. Tickle Engineering Building
851 Neyland Drive
The University of Tennessee
Knoxville, TN 37996

Dear Dr. Cox,

I am writing on behalf of HDR Engineering, Inc. to support the University of Tennessee's plan to develop a BS degree in Environmental Engineering.

HDR is a top 5 rated engineering firm by Engineering News Record, with more than 11,000 employees in offices across the US and around the world. Engineers with strong backgrounds in environmental engineering and water resources lead projects related to water supply and distribution, wastewater collection and treatment, air quality management, site remediation, water resources management, and sustainable energy systems. These projects are distributed across the various markets sectors we serve, including Water, Waste, Energy, Transportation, and Industrial. Many of the projects serve to protect public health, manage natural resources, and protect the environment as a whole.

HDR hires over 200 entry-level engineers each year, including graduates of BS in Environmental Engineering programs. Environmental engineers are well-suited to fill many of these positions. Our demand for engineers with strong training in environmental engineering and water resources is projected to be strong for the foreseeable future.

We are excited about the prospect of a BS in Environmental Engineering degree program at the University of Tennessee. We would seek to recruit graduates from your program to fill entry-level positions in our offices in the Southeast and nationally. Moreover, we would gladly support other academic activities such as providing input on curriculum development and potentially working with you to develop capstone design projects based on real-world projects.

Please let us know how we can further support the development of your BS in Environmental Engineering degree program.

Sincerely,

Shane

Shane R. Womack, PE, Vice President, Office Principal, UT Knoxville BSCE Graduate, 1992

HDR Engineering, Inc.

hdrinc.com 1201 Market Street, Suite C, Chattanooga, TN 37402-2714
(423) 414-3551

Letter of Notification (Final)

UT Knoxville BS Environmental Engineering

12/22/22

36



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 Division of Solid Waste Management
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 14th Floor
 Nashville, Tennessee 37243

October 1, 2019

Dr. Chris Cox, Department Head
 Department of Civil and Environmental Engineering
 525 John D. Tickle Building
 University of Tennessee -- Knoxville
 Knoxville, TN 37996

Subject: Establishment of Environmental Engineering Program
 University of Tennessee – Knoxville

Dear Dr. Cox:

I understand that the Civil and Environmental Engineering Department at the University of Tennessee is making plans to establish a Bachelor's degree in Environmental Engineering. Environmental engineers play a vital role in protecting public health and preserving environmental resources across the state of Tennessee in areas such as safe drinking water, sanitation, solid waste management, environmental remediation, air quality, water resources management, groundwater, and numerous others.

Environmental engineers are employed in public utilities, manufacturing, consulting engineering firms, and state and federal agencies, including my own, the Tennessee Department of Environment and Conservation. This degree program will play a vital role in workforce development in Tennessee, especially since there are currently no undergraduate environmental engineering programs offered by any of Tennessee's colleges or universities. I am also pleased to learn that the degree program you are envisioning will prepare graduates to contribute solutions to some of the most important issues facing Tennessee and the nation, including sustainable energy and water systems, smart and resilient communities, and informed community-driven decision making.

I wholeheartedly support the development of an Environmental Engineering Program at the University of Tennessee – Knoxville. Please let me know how I may offer support for your plans to develop this degree program. Thank you.

Sincerely,

 A handwritten signature in black ink, reading "Patrick J. Flood".

Patrick J. Flood, P.E.
 Director



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902

September 19, 2019

Dr. Chris Cox
Department Head, Civil and
Environmental Engineering
University of Tennessee
325 John D. Tickle Building
851 Neyland Drive
Knoxville, Tennessee 37902

Dear Dr. Cox:

Thank you for soliciting TVA's input on the proposed creation of an Environmental Engineering bachelor's degree at the University of Tennessee. As you know, TVA hires many students from UT's current civil engineering program. These students have gone on to successful careers for TVA, in roles as diverse as river management, bridge engineering, and geotechnical engineering and structures.

It is important to note that each of these career paths at TVA are fairly specialized tracks. To illustrate, let me use the group I lead as an example. Within River Management, we depend on a deep set of water resources engineering and policy skills. We depend on staff to make extremely complex decisions that affect the lives of millions of people. These decisions are typically supported by very complex statistical and modelling techniques that often cannot be performed by a new graduate with a generalist civil engineering background. For that reason, we prefer to hire M.S. level graduates into our group. Even so, it often requires a year or two of skills acquisition for that new hire to make a significant contribution.

Your effort to create an undergraduate program that would focus more heavily on the water resources, environmental, and policy aspects of engineering would allow graduates to be more immediately beneficial to TVA.

Sincerely,

Tom Barnett, PE
General Manager
River Management

Appendix B: THEC Financial Projection Form

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
I. Expenditures							
A. One-time Expenditures							
New/Renovated Space	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	150,000	150,000				-	-
Library	-	-	-	-	-	-	-
Consultants	2,500	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-
Other (marketing, accreditation)	10,000	-	6,700	-	-	-	-
Sub-Total One-time	\$ 162,500	\$ 150,000	\$ 6,700	\$ -	\$ -	\$ -	\$ -
B. Recurring Expenditures							
Personnel							
Administration							
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	-	-	-	-	-	-	-
Sub-Total Administration	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Faculty							
Salary	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927	\$ -	\$ -
Benefits	33,990	35,010	36,060	37,142	38,256	-	-
Sub-Total Faculty	\$ 136,990	\$ 141,100	\$ 145,333	\$ 149,693	\$ 154,183	\$ -	\$ -
Support Staff							
Salary	\$ 24,000	\$ 24,720	\$ 25,462	\$ 26,225	\$ 27,012	\$ -	\$ -
Benefits	7,920	8,158	8,402	8,654	8,914	-	-
Sub-Total Support Staff	\$ 31,920	\$ 32,878	\$ 33,864	\$ 34,880	\$ 35,926	\$ -	\$ -
Graduate Assistants							
Salary	\$ -	\$ 12,000	\$ 12,000	\$ 24,000	\$ 24,000	\$ -	\$ -
Benefits	-	2,688.00	2,903.04	3,135.28	3,386.11	-	-
Tuition and Fees* (See Below)	-	8,999	8,999	8,999	8,999	-	-
Sub-Total Graduate Assistants	\$ -	\$ 23,687	\$ 23,902	\$ 36,134	\$ 36,385	\$ -	\$ -
Operating							
Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Printing	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-
Other (accreditation)	-	-	-	715	715	-	-
Sub-Total Operating	\$ -	\$ -	\$ -	\$ 715	\$ 715	\$ -	\$ -
Total Recurring	\$ 168,910	\$ 197,664	\$ 203,098	\$ 221,421	\$ 227,209	\$ -	\$ -
TOTAL EXPENDITURES (A + B)	\$ 331,410	\$ 347,664	\$ 209,798	\$ 221,421	\$ 227,209	\$ -	\$ -

Base Tuition and Fees Rate	\$	-	\$	17,997	\$	18,537	\$	19,093	\$	19,666	\$	-	\$	-
Number of Graduate Assistants		-		1		1		2		2		-		-

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
II. Revenue							
Tuition and Fees ¹	913,357	1,394,363	1,844,895	2,070,289	2,175,933	-	-
Institutional Reallocations ²	(581,947)	(1,046,699)	(1,635,097)	(1,848,868)	(1,948,724)	-	-
Federal Grants ³	-	-	-	-	-	-	-
Private Grants or Gifts ⁴	-	-	-	-	-	-	-
Other ⁵	-	-	-	-	-	-	-
BALANCED BUDGET LINE	\$ 331,410	\$ 347,664	\$ 209,798	\$ 221,421	\$ 227,209	\$ -	\$ -

Notes:

(1) In what year is tuition and fee revenue expected to be generated and explain any differential fees. Tuition and fees include maintenance fees, out-of-state tuition, and any applicable earmarked fees for the program.

Total program enrollment projections are 2023: 50; 2024: 75; 2025: 100; 2026: 211; 2025: 115. One third of graduates are assumed to graduate in December.
In state and out-of-state tuition includes 2% increase per year.
Differential tuition for engineering is estimated to be charged for 9 hours per semester, on average. We assume 25% of students are out of state.

(2) Please identify the source(s) of the institutional reallocations, and grant matching requirements if applicable.

The program is in the black in each of the first five years. Funds can be used within the Tickle College of Engineering to cover expenses and support priorities.

(3) Please provide the source(s) of the Federal Grant including the granting department and CFDA(Catalog of Federal Domestic Assistance) number.

New faculty are expected to bring in new research dollars (including F&A), ramping up over time ramping up to >\$300K per year for the faculty to be hired.
Since none of these contract have been awarded, they are not included in the budget.

(4) Please provide the name of the organization(s) or individual(s) providing grant(s) or gift(s).

None

(5) Please provide information regarding other sources of the funding.

None

Appendix C: Results from Online LinkedIn Job Search

Search 1: Tennessee

The screenshot shows the LinkedIn job search interface. The search bar contains 'environmental engineering jobs in Tennessee, United States'. The results are filtered by 'Entry level 1', 'Full-time 1', 'Job Function 5', and 'Title 3'. The search results list five job openings:

- Civil Project Engineer** at **Thomas & Hutton**, Smyrna, TN (On-site). Vision, Dental. 2 connections work here. 3 weeks ago. 2 applicants.
- Civil Engineer - Structural Design** at **The Pictswet Company**, Bells, TN. 2 company alumni work here. 1 week ago. 0 applicants.
- Traffic Engineer** at **WSP USA**, Nashville, TN (Hybrid). Actively recruiting. 1 week ago. 7 applicants.
- Geotechnical Engineer** at **Universal Engineering Sciences**, Memphis, TN (On-site). 3 connections work here. 1 month ago. 0 applicants.
- Civil Engineer Aviation** at **Kimley-Horn**, Nashville, TN. 7 connections work here. 1 month ago. 0 applicants.

Search 2: Major Regional Metropolitan Areas

LinkedIn search results for "environmental engineering jobs" in the United States. The search filters are: Entry level 1, Full-time 1, Location 6, Job Function 5, Title 3, and Date Posted. The results show five job listings:

- Environmental Engineer** at **CPS, Inc.**, Atlanta, GA (On-site). 1 alum works here. Promoted. Easy Apply.
- Staff Environmental/Civil Engineer (Entry Level)** at **ERM**, Charlotte, NC (Hybrid). 8 company alumni work here. Promoted. 1 applicant.
- Graduate Water Resources Engineer** at **WSP USA**, Dallas, TX. 148 alumni work here. Promoted. 17 applicants.
- Critical Environments Operating Engineer** at **JLL**, Austin, TX. Medical, Vision, Dental, 401(k). 1 company alumnus works here. Promoted. 1 applicant.
- Environmental Engineer** at **North Carolina State University**, Raleigh, NC (On-site). 109 alumni work here. 1 month ago. 1 applicant.

Summary of 30 Positions Identified During Online Job Search

Employer	Job Title	Location	Education Requirement	Link
Leidos	Environmental Engineer	Oak Ridge, TN	Bachelor's degree in environmental/civil/engineering or related science degree	https://www.linkedin.com/jobs/view/3305771865/
LJA Engineering, Inc	Graduate Engineer - Water/Wastewater	Knoxville, TN	Bachelor of Science, Civil or Environmental Engineering is required.	https://www.linkedin.com/jobs/view/3313561147/
CDM Smith	Environmental Engineer 1	Nashville, TN	Bachelor's degree in Civil, Environmental, or Chemical Engineering or related discipline.	https://www.linkedin.com/jobs/view/3334619792/
Thomas & Hutton	Project Manager - Water Wastewater Engineer	Smyrna, TN	Bachelor's degree in Civil Engineering, Environmental Engineering	https://www.linkedin.com/jobs/view/3324487714/
S&ME	Civil Engineering Staff Professional	Knoxville, TN	A bachelor's degree in Civil or Environmental Engineering.	https://www.linkedin.com/jobs/view/3250373971/
S&ME	Civil Engineering Staff Professional	Nashville, TN	A bachelor's degree in Civil or Environmental Engineering.	https://www.linkedin.com/jobs/view/3153298663/
Tetrattech	Junior Environmental Scientist/Engineer	Nashville, TN	Degreed individual in the sciences (biology, ecology, geology, hydrogeology, etc.), architecture, or engineering	https://www.linkedin.com/jobs/view/3281929552/
Liberty Personnel Services	Junior Civil Engineer	Nashville, TN	BS in Civil or Environmental Engineering	https://www.linkedin.com/jobs/view/3307183299/
Actalent	Project Environmental Engineer	Brentwood, TN	Bachelor's degree in Construction Engineering, Civil Engineering, Environmental Engineering, or Geotechnical Engineering required.	https://www.linkedin.com/jobs/view/3339849761/

ERM	Staff Environmental Engineer/Geologist/Scientist	Nashville, TN	BS in environmental, civil, or chemical engineering; geology; hydrogeology; or related discipline;	https://www.linkedin.com/jobs/view/3330559539/
CPS, Inc	Environmental Engineer	Atlanta, GA	BS in Environmental Science, Engineering, Chemistry, or another science-related field	https://www.linkedin.com/jobs/view/3224222450/
ERM	Staff Environmental/Civil Engineer (Entry Level)	Charlotte, NC	Bachelor's degree in Civil, Environmental, or Chemical Engineering.	https://www.linkedin.com/jobs/view/3330561732/
WSP USA	Graduate Water Resources Engineer	Dallas, TX	Bachelor's Degree in Civil or Environmental Engineering, with a focus on Water Resources or a closely related discipline.	https://www.linkedin.com/jobs/view/3289793004/
North Carolina State University	Environmental Engineer	Raleigh, NC	Bachelor's Degree in the Engineering discipline related to the area of assignment	https://www.linkedin.com/jobs/view/3332431405/
Terracon	Staff Environmental Compliance Engineer	Charlotte, NC	Bachelor's degree in Chemical Engineering, Environmental Engineering, or other environmental related discipline (Master's degree preferred),	https://www.linkedin.com/jobs/view/3295663375/
McGill and Associates	Water / Wastewater Engineer	Raleigh, NC	Bachelor's Degree in Civil or Environmental Engineering or a related field	https://www.linkedin.com/jobs/view/3310206188/
STV	Water Resources Engineer	Charlotte, NC	Bachelor's degree in Engineering and a master's degree in Engineering is a plus (Civil, Biological, Agricultural, or another related discipline)	https://www.linkedin.com/jobs/view/3325914605/

AECOM	Environmental Engineers All Levels	Dallas, TX	BA/BS degree in environmental, engineering, or other relevant discipline	https://www.linkedin.com/jobs/view/3334609573/
Chord Energy	Environmental Engineer Advisor	Houston, TX	Bachelor's degree in environmental science, engineering, or a related degree	https://www.linkedin.com/jobs/view/3305283575/
Chord Energy	Environmental Engineer	Houston, TX	Bachelor's degree in environmental science, engineering, or a related degree	https://www.linkedin.com/jobs/view/3304959287/
Westwood Professional Services	Civil Graduate Engineer	Dallas, TX	Bachelor's Degree in Civil or Environmental Engineering	https://www.linkedin.com/jobs/view/3323712518/
CHA Consulting	Early Career Environmental Engineer	Atlanta, GA	Bachelor's degree in Environmental Engineering is required.	https://www.linkedin.com/jobs/view/3257605305/
AECOM	Environmental Engineers All Levels	Austin, TX	BA/BS degree in environmental, engineering, or other relevant discipline	https://www.linkedin.com/jobs/view/3312986883/
TRC Companies	Environmental Engineer	Austin, TX	Bachelor's Degree in engineering (environmental, civil, chemical, or agricultural) from an accredited university	https://www.linkedin.com/jobs/view/3153764888/
CyberCoders	Project Engineer - Land Development	Raleigh, NC	BS in Civil or Environmental Engineering	https://www.linkedin.com/jobs/view/3303259898/
ERM	Staff Environmental/Civil Engineer (Entry Level)	Atlanta, GA	Bachelor's degree in Civil, Environmental, or Chemical Engineering.	https://www.linkedin.com/jobs/view/3330560698/
Baxter & Woodman	Water / Wastewater Engineer	Houston, TX	Bachelor of Science Degree from an accredited university in Civil Engineering, Environmental Engineering,	https://www.linkedin.com/jobs/view/3339083598/

			Mechanical Engineering, or a related field.	
AECOM	Environmental Engineers All Levels	Houston, TX	BA/BS degree in environmental, engineering, or other relevant disciplines	https://www.linkedin.com/jobs/view/3312992110/
Aqua	Project Engineer	Houston, TX	Bachelor's degree in Mechanical, Civil, or Environmental Engineering	https://www.linkedin.com/jobs/view/3325850328/
Garver	Project Engineer	Atlanta, GA	Bachelor's degree in civil, biological, or environmental engineering from an ABET-accredited program Registered as an Engineer Intern (EI)	https://www.linkedin.com/jobs/view/3324950656/

Appendix D: Summary of Employer Survey Responses

<p>In the last five years, how many entry-level engineering positions did your firm (or branch office) hire that included environmental engineering in the job description?</p> <ul style="list-style-type: none"> • 2 to 5: 4 respondents • 6 to 13: 6 respondents • About 100: 1 respondent
<p>About what proportion of those were filled by a candidate with a civil engineering BS degree vs. environmental?</p> <ul style="list-style-type: none"> • Predominantly civil: 7 respondents • About 50/50: 2 respondents • Only hire Environmental Engineers with graduate degrees: 1 respondent • Don't know: 1 respondent
<p>Consider two job candidates for a position in your organization that carries the nominal job title of "Environmental Engineer." One candidate holds a BS in Environmental Engineering, and another holds a BS in Civil Engineering. Other than their degree, the two candidates are equally qualified. Please select the statement that most closely reflects your opinion:</p> <ul style="list-style-type: none"> • Our organization would prefer the depth of knowledge of a candidate holding the Environmental Engineering degree: 7 respondents • Our organization would prefer the breadth and versatility of the candidate holding the Civil Engineering degree: 3 respondents • Our organization only hires people holding an MS degree in Environmental Engineering for such positions: 1 respondent
<p>Thinking 5-10 years into the future, do you think you will have more, less, or about the same level of interest in hiring a student with a BS ENVE degree?</p> <ul style="list-style-type: none"> • More: 6 respondents • Less: 0 respondents • About the same: 5 respondents
<p>Would you compensate a BS ENVE graduate higher, lower, or about the same as a BS CEE graduate?</p> <ul style="list-style-type: none"> • More: 1 respondent • Less: 0 respondents • About the same: 10 respondents
<p>Do you have any additional comments?</p> <ul style="list-style-type: none"> • River management focus area would be great • My environmental engineering training served me well, so I favor such a B.S. Degree. Keep in mind that much "environmental work" requires a strong background in Civil Engineering. For example, landfill design is considered environmental but is mostly civil.

- While we almost exclusively hire MS and Ph.D. level engineers, we very much value the BS in ENVE, especially in Tennessee, where PE registration requires a BS in engineering.
- Not at this time
- The preference stated above for Environmental would be slight and a function of the exact position. In some cases, a generalist is preferred.
- Our Division typically hires most of its engineers into either the Solid Waste Program or the Hazardous Waste Program. Traditional Civil Engineering programs would benefit candidates in the Solid Waste Program; an Environmental Engineering program might give a slight benefit to candidates in the Hazardous Waste Program (depending on course content). I would also be VERY concerned about an Environmental Engineering graduate being able to obtain their PE; it would be an easier path for a traditional Civil Engineering graduate.
- I like the idea of a student coming into the workplace better understanding what we do in the water and wastewater industry.
- First, the question that compares the two candidates is not as black and white as asked. There are instances where an Environmental would be a preference over a Civil, but that is not delineated in the question. For example, the preference would be an environmental engineer in a technical services field that deals with environmental programs. However, in general, project management may be Civil, but the answers to the question make you go one way or the other. Also, an Environmental could step into the role of a project manager so that they would be versatile. Second, while Civil students get a well-rounded education, there is a need for what I would term a process engineer. An environmental engineer who has studied more about water and wastewater processes could benefit Plant Operations. They would be technically minded and related to process and could help us troubleshoot process upsets, go back in time, and examine why upsets occurred. They would also need soft skills to communicate and work with a more blue collared workforce in the treatment plant Operator world.
- My Environmental Department head is a relatively young engineer named Matt Bruck. Matt can provide additional information about what consultants in environmental engineering would value.
- TVA River Management would certainly be in favor of hiring graduates who have had more focus on water resources studies
- Great for employers who are big enough to hire ENV BS and CE BS and separate their duties into two categories, but not the best option for a smaller employer who is looking to have the breadth of capabilities or the employee who isn't exactly sure what they want to be when they grow up because too limited in knowledge and skills.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Letter of Notification: Doctor of Philosophy (Ph.D.) in Agricultural Leadership, Education, and Communication, UTK/UTIA**

Type: Action

Background Information

The University of Tennessee, Knoxville, proposes a new Doctor of Philosophy (Ph.D.) in Agricultural Leadership, Education, and Communication (ALEC) (CIP 01.0801). The ALEC Department in the Herbert College of Agriculture will administer the program. ALEC is a leading department within The University of Tennessee Institute of Agriculture (UTIA) in teaching and research, and, in 2021, the department received the National Association of Agricultural Educators' *Outstanding Postsecondary Agriculture Program* award. The proposed Ph.D. program will enhance the overall capacity of the institution by providing research-based Ph.D. courses for the department and other academic units.

This proposed Ph.D. program will require 72 graduate credit hours beyond the bachelor's degree or 48 graduate credit hours beyond the master's degree. Students will complete 24 credit hours of dissertation research credit to be counted toward the Ph.D. course requirements and a minimum of 6 credit hours at the 600-level, along with graduate-level research methods, statistics coursework, and ALEC specialization courses.

To support the new Ph.D. program, resources will be allocated from the Herbert College of Agriculture to include a 60% appointment of an existing faculty member to oversee the program. The proposed Ph.D. program will not duplicate the efforts of other colleges in Tennessee and will provide an opportunity to further the education of their graduates.

Committee Action

The Committee Chair will call for a motion to recommend adoption of the following Resolution.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

Resolved:

The Executive Committee, on behalf of the Board of Trustees, hereby approves the attached Letter of Notification pertaining to the proposed Ph.D. in Agricultural Leadership, Education, and Communication and authorizes the submission of such Letter of Notification to the Tennessee Higher Education Commission.

Letter of Notification (LON)

Doctor of Philosophy

Agricultural Leadership, Education, and Communication



Updated 01.06.22

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Section I: Overview

Institution:	University of Tennessee, Knoxville
College:	Herbert College of Agriculture
Department:	Department of Agricultural Leadership, Education and Communications
Title of Degree:	Doctor of Philosophy in Agricultural Leadership, Education and Communication
Formal Degree Abbreviation:	ALEC
Degree Designation	Ph.D.
CIP/THEC Code:	01.0801
CIP Code Title:	Agricultural and Extension Education Services
Proposed Implementation Date:	August 2023
Academic Program Liaisons:	<p>Karen Etzkorn, Director of Academic Affairs 505 Summer Place / UT Tower 1268-B Knoxville, TN 37902 Phone number: 865-974-2104 Email: etzkorn@tennessee.edu</p> <p>Dr. Christopher Stripling Professor & Head, Agricultural Leadership, Education and Communications 320 Morgan Hall 2621 Morgan Circle Drive Knoxville, TN. 37966-4518 865-974-3344 cstripli@tennessee.edu</p> <p>Dr. Carrie Stephens Professor, Agricultural Leadership, Education and Communications 114A McCord Hall 2640 Morgan Circle Drive Knoxville, TN. 37966-4500 865-974-4830 cfritz@tennessee.edu</p>

Documentation of Board Approval

System Letter from AVPAASS

THE UNIVERSITY OF TENNESSEE SYSTEM

ACADEMIC AFFAIRS AND STUDENT SUCCESS

November 29, 2022

Dr. Julie Roberts, Chief Academic Officer
 Tennessee Higher Education Commission
 312 Rosa L Parks Ave. 9th Floor
 Nashville, TN 37243

Dear Dr. Roberts:

On behalf of UT Knoxville's Institute of Agriculture, please accept the attached Letter of Notification (LON) for a proposed Ph.D. program in Agricultural Leadership, Education, and Communication (CIP 01.0801). The proposed program will empower adult learners to achieve their dreams through accessible advanced education. Online offerings for a majority of the required credit hours is in response to the needs of today's learners. It will advance the well-being of Tennessee communities, including rural and distressed counties, creating opportunities for a more just, prosperous, and sustainable future for the state and beyond. This program can strengthen the workforce by educating more individuals in advanced areas of agricultural and natural resource Extension, teaching and learning, leadership, youth development, and communications. The program will be the only Ph.D. program in Tennessee with an emphasis on Agricultural Leadership, Education, and Communication. The University of Tennessee Institute of Agriculture will utilize existing campus resources and additional requested resources to develop the Agricultural Leadership, Education, and Communication doctoral degree program. We look forward to receiving an evaluation of the LON by THEC staff.

Sincerely,

Bernie Savarese, Ed.D.
 Acting Vice President of Academic Affairs and Student Success
 University of Tennessee System

CC: Donde Plowman
 John Zomchick
 Carrie Castille
 John Stier
 Chris Stripling
 Carrie Stephens
 Heather Hartman
 Karen Etzkorn

400 W. Summit Hill Drive (physical) • 505 Summer Place (postal) • UT Tower 125B • Knoxville, TN 37902 • (865) 974-3843
aass.tennessee.edu

Letter from UTK Campus Provost or Chancellor

December 5, 2022

Dear President Boyd,

I am pleased to provide my full support for the proposal to create a Doctor of Philosophy (PhD) in Agricultural Leadership, Education and Communication (ALEC) at the University of Tennessee, Knoxville. This proposal has been making its way through the campus curricular approval process without any difficulty. We are asking for BOT and THEC approvals so that we can add the PhD in ALEC to our inventory of programs for fall 2023.

Chancellor Plowman and I are excited to add the Doctor of Philosophy in ALEC to our campus inventory. We fully anticipate that this program will be a success and will benefit students for many years to come.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John Zomchick'.

John Zomchick
Provost & Senior Vice Chancellor

Office of the Provost and Senior Vice Chancellor
527 Andy Holt Tower, Knoxville, TN 37996-0152
865-974-2445 865-974-4811 fax provost.utk.edu

Flagship Campus of the University of Tennessee System 

Section II: Background

Background Concerning Academic Program Development

The mission of the Department of Agricultural Leadership, Education, and Communications (ALEC) is to serve Tennesseans, our nation, and the world by (1) equipping current and future generations of educators, leaders, and communicators through agriculture; (2) establishing strategic partnerships with communities and industry; (3) seeking solutions through scholarship; and (4) developing and delivering innovative outreach and Extension programs that deliver Real. Life. Solutions. Currently, the ALEC department offers Bachelor of Science (BS) and Master of Science (MS) degrees and is proposing a Doctor of Philosophy (Ph.D.) degree in Agricultural Leadership, Education, and Communication. Students who enroll in the Ph.D. degree program would select courses in consultation with their supervisory committee from content areas including Extension, leadership, education, communication, youth and adult development, research methods, statistics, psychology, sociology, and other undergirding disciplines (see support letters in Appendix B). Students completing this degree would then be markable to agriculture and natural resource industries; public and private education institutions; communication, cooperate, and business sectors; and governmental and public service agencies.

In August 2016, the ALEC Department underwent a comprehensive external review. The review team was asked to address, among other items, the potential for a Ph.D. program in the department. In its report, the review team concluded:

Pursue research FTEs for the department. This will enhance the unit in several ways. It could strengthen the graduate program; allow greater participation in grants; provide recognition of ALEC's contribution to the research mission of UTIA; increase resources, collaboration, and accountability for scholarship; and enhance the department's national and international reputation. Develop a timeline for adding a Ph.D. program. This is a longer-term but achievable goal. The department has an opportunity to develop a unique program focused on extension education and youth development.

Follow-up discussion with UTK/UTIA administrators has also encouraged the initiation of a Ph.D. program in the department, also identified during the department's strategic planning session in 2020. Based on the 2016 review and 2020 strategic planning session, the ALEC department began the beginning processes of developing this LON. In August 2021, the ALEC department underwent another comprehensive external review, which strongly supported the Ph.D. initiative. In addition to the external reviews and strategic planning session, program design, course requirements, and delivery, implementation dates, demand, and need for the program, student recruitment strategies, and similar aspects of the new program have been discussed with peers, prospective students, and external constituency groups. These individuals are supportive and enthusiastic about the new program.

Compared to similar programs at other institutions, the Department of Agricultural Leadership, Education, and Communications at The University of Tennessee is unique in terms of its breadth of teaching, research, and Extension faculty members. The faculty are diverse and well-established in their areas of expertise. The department currently offers more than 20 graduate courses in the

areas of agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication to assist in completing the MS degree in ALEC and provide opportunities for students in other graduate programs to develop leadership, pedagogical, and communication knowledge and skills. ALEC’s goal is to add a Ph.D. program complementing our BS and MS degrees. ALEC also intends to offer the Ph.D. with departmental and institutional efficiency in mind. As a result, ALEC plans to utilize foundational already developed graduate courses and strategically add new ALEC courses with more depth and specialized knowledge.

Purpose and Nature of the Proposed Program

This proposed Ph.D. program will require 72 graduate credit hours beyond the Bachelor’s degree or 48 graduate credit hours beyond the Master’s degree. Students will complete 24 credit hours of dissertation research credit to be counted toward the Ph.D. course requirements and a minimum of 6 credit hours at the 600-level. In addition, students must complete a minimum of 12 credit hours in graduate-level research methods and statistics coursework. For the remaining credit hours, students will complete ALEC specialization course credit hours chosen in consultation with their supervisory committee. The supervisory committee will consider the student’s prior coursework and professional goals to build robust ALEC knowledge and skills. Given this degree structure, full-time students with a master’s degree in a related field will be expected to complete the Ph.D. degree program in three to four years. Standard UT Graduate School procedures regarding the supervisory committee, period of concentrated study, qualifying exam, and defense will be followed. Also, with the increasing availability of online courses at UT, most of the required credit hours can be completed online. We envision offering a completely online option as more online courses become available. An online completion option will complement ALEC’s online BS and MS programs, increase access to higher education in Tennessee, and create additional opportunities for distressed counties and underserved communities.

Alignment with State Master Plan and Institutional Mission

State Master Plan

The State Master Plan for Tennessee Postsecondary Education 2015-2025 directs higher education to:

- Be accountable for increasing the educational attainment levels of Tennesseans while also addressing the state’s economic development, workforce development, and research needs;
- Ensure increased degree production within the state’s capacity to support higher education; and
- Use institutional mission differentiation to realize statewide efficiencies through institutional collaboration and minimize redundancy in degree offerings, instructional locations, and competitive research.

The State Master Plan for Tennessee Postsecondary Education 2015-2025 emphasizes certificate training and undergraduate education at the center of the state’s college completion policy agenda for 2015-2025. However, the state “continues to acknowledge the critical need for academic

programs of distinction at the graduate and professional level to fully address Tennessee’s economic development, workforce, and research needs.”¹

To contribute to the State Master Plan, the Department of Agricultural Leadership, Education, and Communications prepares students to work in high-demand fields and undersupplied occupations across agriculture and related areas within Tennessee and beyond. The proposed doctoral degree will support the state’s student success, family prosperity, and future work goals by providing an opportunity for adults to reengage in higher education, complete an advanced degree, prepare for the work of the future, and increase their earning potential in Tennessee’s evolving economy. The ALEC Ph.D. program will provide advanced research-based expertise to students in agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication. The expertise gained will prepare students for higher-demanding employment and occupations, supported by the U.S. Bureau of Labor and Statistics (BLS). The data from BLS consistently shows that education increases opportunity in terms of dollars, and “the more you learn, the more you earn.” The BLS states, “Median weekly earnings in 2017 for those with the highest levels of educational attainment—doctoral and professional degrees—were more than triple those with the lowest level.” ALEC’s advanced areas of expertise can be applied to a broader education, business, governmental, and public agency settings while attracting students from rural and urban communities with varied academic expertise and backgrounds seeking strategic leadership, pedagogical, research, and communication skills in an evolving economy.

The University of Tennessee Institutional Mission and Vision

The University of Tennessee, Knoxville, is *a diverse community committed to discovery, creativity, learning, and engagement*. The University of Tennessee, Knoxville:

- **Empowers** learners of all ages and backgrounds to achieve their dreams through accessible and affordable education and state-of-the-art research training opportunities;
- **Advances** the prosperity, well-being, and vitality of communities across Tennessee and around the world through our research, teaching, service, engagement, and
- **Commits** to excellence, equity, and inclusion within the university, across the state, and in all our global activities.

The University of Tennessee, Knoxville, cultivates the Volunteer experience by demonstrating leadership in providing educational opportunities for people at every stage of life, whenever and wherever they seek to learn. These efforts are to:

- **Provide** learners at all levels with opportunities to engage in rich learning and in scholarship that is collaborative, inquiry-based, experiential, affordable, and relevant;
- **Deliver** educational opportunities that are responsive to the needs of learners;
- **Support** curricular innovations that align with 21st-century workforce needs and our research strengths and priorities, and
- **Ensure** that our programs are accessible to communities across Tennessee and beyond.

¹ Postsecondary attainment in the decade of decision: The master plan for Tennessee postsecondary education 2015-2025, p. 2

The University of Tennessee, Knoxville, is committed to the *2021 Strategic Vision*. The vision means a long-term commitment to research excellence, defined as follows:

Advance the frontiers of knowledge to create a more just, prosperous, and sustainable future through world-class research, scholarship, and creative work. The commitment areas are:

- **Strengthen** the impact and reputation of our research, scholarship, and creative activities.
- **Ensure** that our research outcomes generate a more just, prosperous, and sustainable future.
- **Invest** in state-of-the-art research infrastructure and frameworks to ensure that our researchers, scholars, and creatives continue to work at the knowledge frontier.

The ALEC Ph.D. program will support UT's mission and vision in several ways. The program will empower adult learners to achieve their dreams through accessible advanced education. The online availability of a majority of the required credit hours is in response to the needs of today's learners. It will advance the well-being of all communities, including rural and distressed counties, creating opportunities for a more just, prosperous, and sustainable future for Tennesseans and beyond. This will be done by providing a new educational opportunity (Ph.D.) that can strengthen the workforce by educating more individuals in advanced areas of agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication. Additionally, the Ph.D. program will build upon and allow the ALEC department to strengthen its research, scholarship, and creative activities. Much of this research is devoted to workforce development, equity and inclusion, and understanding technologies, practices, and adoption decisions in agricultural and natural resource industries. Elevating and strengthening ALEC's research capabilities will contribute to the university remaining at the frontier of knowledge creation and dissemination.

The University of Tennessee Institute of Agriculture Vision

The vision of the University of Tennessee Institute of Agriculture (UTIA) is to create Real. Life. Solutions. UTIA accomplishes this vision by (1) preparing students to make a difference, (2) discovering knowledge that impacts real-world issues, and (3) connecting with people and communities to help them prosper. UTIA serves the people of Tennessee and beyond through its colleges, research and education centers, and county extension offices through the discovery, communication, and application of knowledge. UTIA, working with The University of Tennessee, Knoxville, is committed to providing undergraduate, graduate, and professional education programs in a diverse learning environment that prepares students to be leaders in a global society. UTIA's delivery of education, discovery, and outreach contributes to the economic, social, and environmental well-being of all Tennesseans. It focuses on contemporary problems faced by Tennessee, the nation, and the world. In conjunction with the UTIA vision, the proposed ALEC Ph.D. program will:

1. Attract a diverse, high-quality student population;
2. Prepare graduates who are recognized for their breadth in academic and career skills, disciplinary expertise, creative problem-solving abilities, and high standards of professional and scholarly excellence;

3. Prepare graduates for domestic and international academic, administrative, research, and leadership positions in the public and private sectors;
4. Contribute to and further advance existing teaching, research, and Extension programs offered in the department;
5. Advance the body of knowledge in agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication; and
6. Foster the application of new knowledge to address state, national, and international problems.

The department can achieve the goals stated above. Current enrollment in the department's master's degree program is robust—graduating more than 20 students annually for the last five years—and continues to grow. State and national networks should ensure equal success at the Ph.D. level. Faculty and student research have focused on solving significant problems in many areas of the broad field of agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication. The Ph.D. program will enable the department's research efforts to have an even more significant impact on theory and applications in the field. Faculty quality and expertise, strong relationships with constituent groups, diverse course offerings, and effective faculty research programs will support a Ph.D. program and advance both department and university agendas for high-quality graduate education.

Institutional Capacity for Program Delivery

The University of Tennessee, Knoxville, is a land-grant institution and is part of the University of Tennessee System, along with UT Chattanooga, UT Martin, the UT Health Science Center, and UT Southern. The University of Tennessee is the state's largest and most comprehensive institution. It is classified as producing very high research activity by the Carnegie Classification of Institutions of Higher Education (Doctoral Universities R1 category). The University of Tennessee is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award bachelor's, master's, and doctoral degrees. As the state's flagship institution, The University of Tennessee ranks among the top-tier public research universities and attracts more than \$250 million in research awards annually.

Ph.D. Program Delivery

The Department of Agricultural Leadership, Education, and Communications will administer the proposed degree program. ALEC is a leading department for The University of Tennessee Institute of Agriculture in teaching and research and received the 2021 National Association of Agricultural Educators' *Outstanding Postsecondary Agriculture Program* award. The proposed Ph.D. program will enhance the overall capacity of the institution by providing research-based Ph.D. courses for the department and other academic units to utilize within their programs. Also, collaborative efforts between ALEC and other academic units will be created to provide more robust research for Ph.D. students. The Ph.D. program will also allow faculty to remain highly active in regional and national research conferences and regularly publish their work in leading journals in the field.

The new degree program will be a hybrid with on-campus and online instruction. Students who will be on GRA or GTA appointments in ALEC (which will be created by moving some existing GRA and GTA appointments from the master's level in ALEC to the doctoral level) will be

expected to complete their coursework on the Knoxville campus. However, students who are not on GRA or GTA appointments may choose the hybrid option (a combination of on-campus and online offerings) except for the required statistics credit hours, which are currently only offered face-to-face. ALEC envisions offering a completely online option if the required statistics credit hours become available online. The department currently offers an online master's degree program with more than 20 graduate courses in agricultural and natural resource Extension, teaching and learning, leadership, youth development, and Communication. Additional supporting coursework for this new program is available from other colleges at the University.

In order to support the new Ph.D. program, resources will be allocated from the Herbert College of Agriculture to include a 60% appointment of Dr. Brent Lamons (in addition to our current faculty). The new faculty position included mentoring/advising graduate students, teaching additional graduate courses, and other graduate responsibilities as needed. Teaching, research, and extension efforts of current faculty in the department are complementary and demonstrate cooperation that increases overall efficiency and productivity. With the new additional faculty member and current faculty members, graduate courses will be added for Ph.D. students, and current courses will continue to be revised as appropriate to ensure excellent scope and quality. Currently, the department offers 22 500-level courses and will add five more 600-level courses for Ph.D. students. Additionally, the College of Education, Health, and Human Sciences, College of Communications and Information Sciences, and the College of Arts and Sciences have courses that will be utilized in the Ph.D. program of study to prevent course redundancy and create instructional and resource efficiency (see support letters).

Recruitment of Students

There is a robust pool of potential students within and outside of the Herbert College of Agriculture at The University of Tennessee and students from degree programs in other Tennessee universities (see Appendix D). The Herbert College of Agriculture has an undergraduate and graduate program enrollment of over 1,700 students. Both sets of students provide ample populations to recruit for the Ph.D. program. ALEC is interwoven into all academic programs currently offered in the College. In addition, several institutions within Tennessee have leadership, education, and communication emphasis at the undergraduate and master's levels, which will also be recruited for the Ph.D. program. Beyond Tennessee, several institutions listed in Appendix D have bachelor's and master's programs similar to ALEC, and those students would be considered for the Ph.D. program. The departmental faculty will also target middle and high school agricultural education and science teachers, community college educators, agribusiness professionals, Extension agents, communication specialists, administrators, and agency directors.

Existing Programs in Tennessee

The existing programs at The University of Tennessee, Knoxville, in **Table 1**, provide bachelor's and master's degrees that could provide a pipeline of students coming into the Ph.D. program. The ALEC department is graduating more than 20 MS students/per year. The expectation is that three students a year will be admitted to the Ph.D. program with a gradual increase in total enrollment each year. Table 2 outlines other programs at The University of Tennessee and Tennessee universities where students will be recruited for the Ph.D. program.

A recent national analysis completed by the Department of Agricultural Leadership, Education, and Communications revealed that 17 land grant institutions have doctoral programs in a field similar to the proposed program. The proposed Ph.D. program will not duplicate the efforts of other colleges in Tennessee but will provide an opportunity to further the education of their graduates. While there are doctoral programs in Tennessee in the field of Agriculture, no other Ph.D. programs in Agricultural Leadership, Education, and Communication exist in Tennessee (see Appendix D).

Table 1.

Agricultural Leadership, Education & Communication Programs in Tennessee

Institution Name	Program Title and Degree Designation	CIP Code	Description/ Focus of Program	Miles from UT Campus	Degrees Awarded for Last 3 Years
University of Tennessee, Knoxville	Agricultural Leadership, Education & Communication, MS	01.01.0801.00	Specifically designed to deliver research-based concentrations in four areas—agricultural education, agricultural extension education, agricultural leadership, and agricultural communications.	at UTK	20 degrees in 2020-2021 26 degrees in 2019-2020 21 degrees in 2018-2019
University of Tennessee, Knoxville	Agricultural Leadership, Education & Communication, BSAG	01.01.0801.00	It provides an opportunity for students to complete concentrations in four different areas—agricultural education, agricultural extension education, agricultural leadership, and agricultural communications.	at UTK	22 degrees in 2020-2021 14 degrees in 2019-2020 20 degrees in 2018-2019

Table 2.

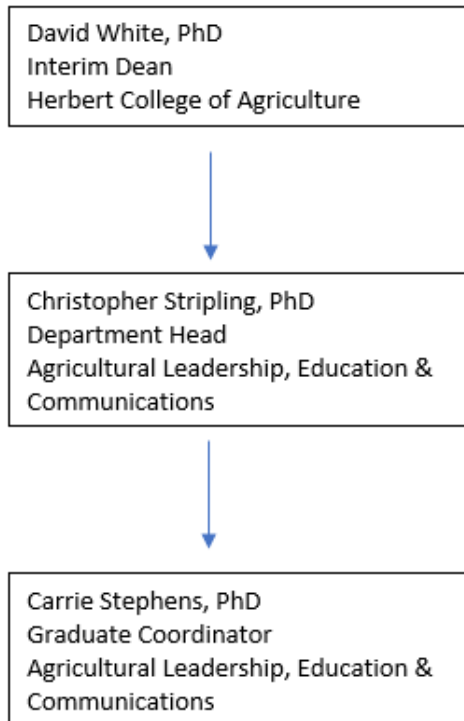
Potential Feeder Programs from the University of Tennessee and other Tennessee Universities

Institution Name	Program Title/Major and Degree Designation	CIP Code
Austin Peay State University	General Agriculture, BS	01.01.0000.00
Austin Peay State University	Communication Media, BA, BS	05.09.0401.00
Austin Peay State University	Education, BS	08.13.1206.00
Austin Peay State University	Educational Leadership, EdD	08.13.0401.00
Austin Peay State University	Educational Leadership Studies, MAEd	08.13.0401.00
Austin Peay State University	Leadership and Organizational Administration, MSL	16.24.0102.01
Austin Peay State University	Leadership Science, BS	16.24.0102.02
East Tennessee State University	Communication Studies, BA, BS	15.23.1304.00
East Tennessee State University	Educational Leadership, MEd, EdS, EdD	08.13.0401
Middle Tennessee State University	Administration & Supervision, MED in Agricultural Education Leadership	08.13.0401.00
Middle Tennessee State University	Agribusiness, BS	01.01.0102.00
Middle Tennessee State University	Agricultural Science, BS, MS	01.01.0000.00
Middle Tennessee State University	Animal Science, BS	01.01.0901.00
Middle Tennessee State University	Environmental Science, BS	09.15.0303.00
Middle Tennessee State University	Plant & Soil Science, BS	01.01.1101.00
Middle Tennessee State University	Communication, BA, BS	05.09.0101.00
Tennessee State University	Agricultural Science, BS, MS	01.01.0000.01
Tennessee State University	Environmental Science, MS	01.03.0104.00
Tennessee State University	Communication, BA, BS	05.09.0100.00
Tennessee State University	Education Leadership, EdD	08.13.0401.00
Tennessee Technological University	Agriculture, BSAG	01.01.0000.00
Tennessee Technological University	Animal Science, BS	01.01.0901.00
Tennessee Technological University	Food and Animal Science, MS	01.01.9999.00
Tennessee Technological University	Communication, BS	05.09.9999.00
University of Memphis	Communication, BA, MA	05.09.0102.00
University of Memphis	Education, EdS	08.13.0101.00
University of Memphis	Leadership & Policy Studies, MS, EdD	08.13.0401.00
University of Tennessee, Chattanooga	Environmental Science, BS, MS	01.03.0104.00
University of Tennessee, Chattanooga	Communication, BS	05.09.0100.00
University of Tennessee, Chattanooga	Leadership & Instructional Practice, EdD	08.13.0401.00
University of Tennessee, Knoxville	Communication and Information, MS	05.09.0102.00
University of Tennessee, Knoxville	Communication Studies, BAC	05.09.0101.00
University of Tennessee, Knoxville	Education, BS, MS, EdS	08.13.0101.00
University of Tennessee, Knoxville	Educational Administration, MS	08.13.0401.00
University of Tennessee, Knoxville	Educational Leadership, EdD	08.13.0401.00
University of Tennessee, Martin	General Agriculture, BSAG	01.01.0000.00
University of Tennessee, Martin	Agriculture & Natural Resources, MSANR	01.01.0101.00

Accreditation

There are no accrediting agencies appropriate for this program.

Administrative Structure



Section III: Feasibility Study

Student Interest

The Ph.D. program will be the only Ph.D. program in Tennessee with an emphasis on Agricultural Leadership, Education, and Communication. The other programs in Tennessee only offer Bachelor of Science and Master of Science degree programs. The department receives approximately 20 requests annually regarding the opportunity to complete a Ph.D. from within Tennessee and throughout the southeast. To substantiate the requests, a survey was sent out to former and current ALEC MS students about the need for a Ph.D. program. The results can be found in **Table 3**, listed below. In addition, open-ended comments related to the Ph.D. program were requested, and a representative sample of those comments can be found in Table 4. Current and former students agreed that a Ph.D. program in ALEC is warranted and needed.

Table 3.

Interest in Ph.D. Program in the Department of Agricultural Leadership, Education and Communication (ALEC) from Current and Former Students

Item	Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believe UT should offer a doctoral program in ALEC.	79	1.3% (1)	0.0% (0)	17.7% (14)	12.7% (10)	68.4% (54)
I would be interested in learning more about this program.	79	2.5% (2)	3.8% (3)	12.7% (10)	30.4% (24)	50.6% (40)
I think others I know would be interested in exploring this program.	79	1.3% (1)	1.3% (1)	20.3% (16)	32.9% (26)	44.3% (35)
A new doctoral program at UTIA would raise UT Knoxville's visibility.	79	1.3% (1)	2.5% (2)	8.9% (7)	26.6% (21)	60.8% (48)
If offered, I believe this program would be successful.	79	1.3% (1)	1.3% (1)	17.7% (14)	24.1% (19)	55.7% (44)

Table 4.

Sample of Written Comments from Current and Former Students on a Ph.D. Program in the Department of Agricultural Leadership, Education, and Communications

By offering these terminal degrees, I feel the ALEC reach will be broadened throughout the state and region, allowing students to be more active and immersed in research-based initiatives.
It is necessary at an R1 university.
Having an accessible doctoral program at the flagship campus within the state would make higher education more readily available to lower SES students.
The program should have an online option to attract potential students worldwide.
I might get my Ph.D. if offered.
Leadership, education, and communication are essential to agriculture and need experts to help advance the agriculture industry. A new Ph.D. program will help do that.
This program would be a major asset to ALEC students that want to further their studies in their specific interest concentrations (ex., ag leadership, ag education, ag extension education, ag communications, etc.).

Feasibility for the proposed program was assessed by reviewing current literature related to ALEC and surveying former students and regional and state employees working in ALEC-related professions.

School-Based Agricultural Education

One area of need is school-based agricultural education, as there is a strong need for agricultural education programs throughout the country. The National Agricultural Education Supply and Demand Study (Foster, Lawver, and Smith (2021) documented:

As of September 15, 2020, state supervisors reported 8,466 high school-based agricultural education programs employing 13,253.5 teachers. Of the total number of teachers, 1,476 were considered new hires in school-based agricultural education (SBAE). Additional teachers were still needed to meet demand in school-based agricultural education; state supervisors reported 51 full-time and 2 part-time vacancies as of September 15, 2020. Further, substantial growth and expansion in school-based agricultural education occurred in 2020-2021, with 242 new positions and 140 new programs added. Despite program growth, 31 states reported a loss of programs or positions. A total of 77 positions were lost, and 50 programs closed. Respondents reported a total of 673 school-based

agricultural educators who taught in the 2019-2020 school year would not be returning to the classroom in 2020-2021.²

One reason school-based agricultural education teachers do not return to the classroom is compensation, as higher salaries can be found within and outside the agriculture industry with the skills ALEC graduates possess. Typically, certified teachers are paid based on years of experience and degrees held. An ALEC Ph.D. would complement our master's degree and provide an additional opportunity for certified school-based agricultural education teachers to advance their professional skills and compensation value as classroom teachers. The potential for higher compensation may encourage more school-based agricultural education teachers to remain in the classroom. This finding is relevant because, according to the National Academies of Sciences, school-based agricultural education is one key element to facing the complicated set of problems and opportunities before us as climate change and the “growing world population exerts a looming pressure on the global food supply.”

Local and Regional Need/Demand

The Bureau of Labor Statistics (BLS) provides estimates of occupational employment and annual wages based on data collected from employers. In the U.S. in 2019, the median wage for workers with an agriculture degree is \$52,000, 42% of those employed are in occupations requiring at least a bachelor's degree, and 27% of those employed have an advanced degree. While the metrics do not address the specific fields in agricultural leadership, education, and Communication, there are many occupations, both existing and developing, that require the understanding of how agriculture and natural resources impact lives through the quality and abundance of our food supply, personal health, the environment, the economy, and national security. Continued education, research, innovation, and leadership development in agriculture and natural resources directly impact our local and regional economy. Therefore, the Ph.D. program in ALEC can provide an opportunity to educate individuals for education and leadership positions to help meet the local and regional demand in agriculture and natural resources, and related occupations.

Employer Need/Demand

The demand for graduates in this field exceeds the annual production of graduates from existing programs. Over the last year, there have been several new hires of assistant professors, and the demand for more assistant professors is growing due to increases in retirements. According to Employment Opportunities for College Graduates report, there will be a 10.8% increase in the U.S. labor force between 2012-2022 due to job growth and openings from retirements. Also, according to a report commissioned by the United States Department of Agriculture, approximately 56% of all food, agriculture, renewable natural resources, and environment-related position openings between 2020-2025 are expected to be in education, communication, government services, management, and business. Therefore, educating and developing our future workforce is imperative because there are excellent job opportunities in teaching, research, and

² Foster, D. D., Lawver, R. G., & Smith, A. R., (2021). National Agricultural Education Supply and Demand Study, 2020 Executive Summary. Retrieved from <http://aaaeonline.org/resources/Documents/2020%20NSD%20Executive%20Summary.pdf>

administration in private and public sectors, universities, public schools, community colleges, and agricultural and related industries.

A survey of several regional and state employees in Tennessee (e.g., Extension agents, County Extension Directors, UT staff, UT administrators, and agricultural education teachers) revealed that a Ph.D. in ALEC would be highly beneficial to the workforce and is needed (see **Table 5**). In addition, employers provided written comments on the needs and benefits of having a Ph.D. program in ALEC (see Table 6 and support letters).

Table 5.

Interest in a Ph.D. Program in the Department of Agricultural Leadership, Education and Communication (ALEC) from Employers

Item	Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believe UT should offer a doctoral program in ALEC.	113	1.8% (2)	0.0% (0)	19.5% (22)	28.3% (32)	50.4% (57)
I would be interested in learning more about this program.	113	5.3% (6)	9.7% (11)	23.9% (27)	21.2% (24)	39.8% (45)
I think others I know would be interested in exploring this program.	113	4.4% (5)	0.9% (1)	14.2% (16)	47.8% (54)	32.7% (37)
A new doctoral program at UTIA would raise UT Knoxville's visibility.	113	2.7% (3)	1.8% (2)	15.9% (18)	35.4% (40)	44.3% (50)
If offered, I believe this program would be successful.	113	1.8% (2)	0.0% (0)	16.8% (19)	40.7% (46)	40.7% (46)

Table 6.

Sample of Written Comments from Employers on the Needs and Benefits of a Ph.D. Program in the Department of Agricultural Leadership, Education, and Communications

If implemented, it would enable the organization to dive deeper into leadership concepts that would improve Extension.
It would be great to have research-based to help move ALEC and Extension to a more forward-thinking.
This doctoral degree could boost the reputation of UTIA. This would also boost the reputation of Extension Agents and Agriculture teachers in Tennessee. The program should provide an opportunity for well-rounded development in youth development, FCS, Agriculture, and community and economic development.
I have been waiting to see something like this for the past 10+ years. The ability of this program to attract quality candidates and to supplement currently established programs is much needed.
I believe an online doctorate program would be a great way for working individuals to complete it easier.
A Ph.D. program would positively impact agricultural knowledge across not only the state of Tennessee but across the nation. Even though I live in Ohio, I have had nothing but positive interactions throughout my Master's program at UT. I would definitely be applying if a Ph.D. could be received at UT. Also, if, by chance, the Ph.D. were somehow feasible to be completed online, I feel it would breed nothing but success for the University of Tennessee.
As a current extension agent who has thought of getting my Ph.D., I would be interested if it was offered in ALEC.
I hope to obtain a Ph.D. in ALEC; however, with no current program, I was disappointed as I'd like to stay in my current position while obtaining it.

Within the scope of Agricultural and Extension Education Services (ALEC CIP Code Title), the most posted job titles and occupations in the southeast region of the United States include Extension Agents, Order Management Specialists, Smart Home Experts, County Extension Agents, Extension Agricultural Agents, Youth Development Professional and Family and Consumer Science Teachers (Emsi Q1 Data Set, March 2022). Of the southeastern states, Tennessee has had the highest number of job postings in Agricultural and Extension Education Services. The Planning and research. The University of Tennessee, Knoxville, currently ranks fourth among the top regional institutions supplying the labor market with workers employed in the occupations above (Emsi Q1 Data Set, March 2022). With the additional program, the University of Tennessee will be in a stronger position to prepare more individuals to supply the demonstrated need.

Georgetown University's *Economic Value of College Majors* database reports wages for individuals as a function of educational degrees attained. Wage data for individual employees with "general agriculture" degrees are reported in **Table 7** as a function of degree type (i.e., bachelor's versus graduate) and region (national vs. TN state data). As the table reveals, compared to those

with a bachelor's degree only, median wages for an individual with a graduate degree in agriculture are 28.3% (\$15,000) higher nationwide. This wage premium indicates the value employers place on the skills individuals with advanced agriculture degrees bring to their jobs and thus offers evidence of employers' need for such skills.

Table 7.

Wages for General Agriculture Employees with a Bachelor's versus Graduate Degree

	National Wages			State of Tennessee Wages		
	25 th Percentile	Median	75 th Percentile	25 th Percentile	Median	75 th Percentile
Bachelor's Degree	\$37,000	\$53,000	\$81,000	\$39,000	\$54,000	\$95,000
Graduate Degree	\$45,000	\$68,000	\$104,000	N/A	N/A	N/A

Future Sustainable Need

The proposed Ph.D. program will target middle and high school agricultural education and science teachers, community college educators, agribusiness professionals, Extension agents, communication specialists, administrators, and agency directors. These target groups will be sought in Tennessee and throughout the United States. Not all of these individuals would be interested in coming to the Knoxville campus as full-time students; however, they will have the option to complete the degree by utilizing a hybrid approach consisting of online and on-campus courses. With the increasing availability of online courses at UT, all but two required courses can currently be completed online. We envision offering a completely online option as more online courses become available. An online completion option will complement ALEC's online BS and MS programs, increase access to higher education in Tennessee, and create additional opportunities for distressed counties and underserved communities by allowing individuals to stay employed during their Ph.D. program.

ALEC faculty, academic advisors, and staff will be involved with recruiting Ph.D. students. In addition, professional associations will also be utilized to advertise and recruit for the ALEC Ph.D. program. Furthermore, a strong focus will be on recruiting international students into the Ph.D. program as the University of Tennessee Institute of Agriculture's Director of the Smith Center for International Sustainable Agriculture is an active tenured faculty member in the ALEC Department. Tennessee's diverse agricultural and natural resources industries and unique capacity to address current and future agricultural issues add to the university's capacity to attract stellar domestic and international students into this program. Several faculty have international projects and will actively recruit international students to be engaged in the program. Moreover, Tennessee's Extension Service is touted as one of the premier organizations in the country, a strength that will attract applicants interested in this area. Faculty, advisors, and staff will also utilize statewide Extension events and conferences to recruit potential Ph.D. students. Employers provide support letters on the increased need for students with advanced skills gained from the

Ph.D. in ALEC. The employer's support indicates the sustainability of such a program after the first seven years.

Community and Industry Partnerships

The department, and proposed Ph.D. program, have support from and will connect with several large public entities. The Tennessee Farm Bureau has 680,000 members and provided a letter of support indicating their interest in the program as it will provide an avenue for Ph.D. students to research the “socioeconomic, personality, and communication and purchasing behaviors of individuals in rural communities.” Such data will help with rural economic development.

The Tennessee Department of Education is supportive of the proposed Ph.D. program due to the lack of a similar program in Tennessee and the opportunities it will provide to Tennesseans. Colleges such as Education, Health and Human Sciences, and Communication and Information at the University of Tennessee already collaborate with the department for educational programs and have provided letters supporting expanding such collaborations into a Ph.D. program. Tennessee State University has also indicated support for the program. Students in their agriculture education program may be good candidates for the proposed Ph.D. program.

UT Extension also sees a substantial benefit of the program to its workforce. UT Extension currently sends about 20 students through the ALEC Masters program; many of these graduates could continue for their Ph.D., raising the level of Extension programming for the state’s citizens.

Section IV: Enrollment and Graduation Projections

Enrollment will be a combination of graduate assistants hired as either GTAs or GRAs and self-employed-funded students. We expect 30% of students to enter the program from UT ALEC and other master's programs and the remaining 70% in industry or governmental sectors. The department will have ongoing recruitment and special attention for the first six-twelve months. Candidates will be recruited based on ALEC discipline areas and their potential research focus. Three Ph.D. students will be enrolled in Year 1. One as a GA and two self-funded. We will repeat this pattern annually until we have 14 Ph.D. students by year 5. The funding for the GRAs or GTAs will come from converting existing ALEC MS GRA and GTA positions to Ph.D. positions. Reallocation of master assistantships will not have a noticeable effect on MS enrollment. Currently, over 80 students are self-funded. Additional GRA or GTA positions could be funded from faculty grant funds, The University of Tennessee, Knoxville, Herbert College of Agriculture, UTIA's Smith International Center, UT Extension, UT AgResearch, and tuition dollars generated. Based on historical attrition rates of the college, we expect attrition rates to be below 10%. This Ph.D. program is expected to take three years for students on assistantships. Self-funded students who may be part-time students may average longer than three years to complete. Based on the department's approximately 20 requests received annually, we expect to achieve the projected enrollments.

Table 8

Projected Enrollments and Graduates

Year	Academic Year	Projected Total Fall Enrollment	Projected Attrition	Projected Graduates
1	2023-24	3	0	0
2	2024-25	6	0	0
3	2025-26	9	1	1
4	2026-27	12	0	2
5	2027-28	14	0	3

Section V: Projected Costs to Deliver the Proposed Program

The University of Tennessee Institute of Agriculture will utilize existing campus resources and additional requested resources to develop the Agricultural Leadership, Education, and Communication doctoral degree program. Recently, the ALEC department added a faculty member (Dr. Brent Lamons) to assist with the graduate program.

Faculty and Instructional Staff

No new costs are associated with the program beyond the recently added faculty member, Brent Lamons.

Non-Instructional Staff

No new costs are associated with the program beyond the current non-instructional staff.

Graduate Assistants

The department will allocate at least four assistantships to the Ph.D. program. The funding for the GRAs or GTAs will come from converting existing ALEC MS GRA and GTA positions to Ph.D. positions. Additional GRA or GTA positions could be funded from faculty grant funds, The University of Tennessee, Knoxville, Herbert College of Agriculture, UTIA's Smith International Center, UT Extension, UT AgResearch, and tuition dollars generated. GA travel expenses to attend professional meetings and conferences, Extension meetings, and so forth will be provided by the department. The department will allocate \$1,000 per GA for travel.

Accreditation

None. No accrediting agency is appropriate for this program.

Consultants

Two external reviewers will be hired at approximately \$1,500 each.

Equipment

The department plans to spend \$10,000 on computers and related equipment for GAs over the first five years (\$2,500 annually in years 1-4). An additional \$2,000 will be allocated for expendable supplies such as paper, ink, etc.

Information Technology

Two hundred dollars for up to four computers will be needed annually for subscription software.

Library Resources

No new resources are needed.

Marketing

No new resources will be needed for marketing. The department markets our programs through listservs, social media, and websites. UTK is also investing in online marketing programs.

Facilities

No new or renovated facilities are needed.

Section VI: Projected Revenues for the Proposed Program

Tuition

We expect approximately \$28,000 in year 1. We anticipate growing revenue to \$135,000 by year 5.

Grants

ALEC faculty routinely secure education grants that allow GA support to be incorporated into the budgets and programs.

Other

None

Appendix A: THEC Financial Projection Form

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
I. Expenditures								
A. One-time Expenditures								
New/Renovated Space								
Equipment								
Library								
Consultants	\$3,000.00							
Travel								
Other								
Subtotal, One-time Expenditures	\$3,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
B. Recurring Expenditures								
Personnel Administration								
Salary								
Benefits								
Subtotal Administration	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Faculty								
Salary	\$0.00	\$28,200.00	\$28,764.00	\$29,339.28	\$29,926.07	\$30,524.59	\$31,135.08	\$31,757.78
Benefits	\$0.00	\$11,280.00	\$11,505.60	\$11,735.71	\$11,970.43	\$12,209.83	\$12,454.03	\$12,703.11
Subtotal Faculty	\$0.00	\$39,480.00	\$40,269.60	\$41,074.99	\$41,896.49	\$42,734.42	\$43,589.11	\$44,460.89
Support Staff								
Salary								
Benefits								
Subtotal Support Staff	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Graduate Assistants								
Salary		\$24,000.00	\$48,000.00	\$72,000.00	\$96,000.00	\$96,000.00	\$96,000.00	\$96,000.00
Benefits		\$2,400.00	\$4,800.00	\$7,200.00	\$9,600.00	\$9,600.00	\$9,600.00	\$9,600.00
Subtotal Graduate Assistants	\$0.00	\$26,400.00	\$52,800.00	\$79,200.00	\$105,600.00	\$105,600.00	\$105,600.00	\$105,600.00
Operating								
Equipment	\$0.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$0.00	\$0.00	\$0.00
Marketing								
Recruitment								
Travel	\$0.00	\$1,000.00	\$2,000.00	\$3,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00
Other	\$0.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00
Subtotal Operating	\$0.00	\$5,500.00	\$6,500.00	\$7,500.00	\$8,500.00	\$6,000.00	\$6,000.00	\$6,000.00
Total Recurring Expenditures	\$0.00	\$71,380.00	\$99,569.60	\$127,774.99	\$155,996.49	\$154,334.42	\$155,189.11	\$156,060.89
Total Expenditures	\$3,000.00	\$71,380.00	\$99,569.60	\$127,774.99	\$155,996.49	\$154,334.42	\$155,189.11	\$156,060.89
Graduate Assistants								
Base Tuition and Fees Rate	\$0.00	\$17,784.00	\$36,279.36	\$54,419.04	\$72,558.72	\$72,558.72	\$72,558.72	\$72,558.72
Number of Graduate Students	1	1	2	3	4	4	4	4
II. Revenue								
Tuition and Fees		\$28,626.00	\$58,397.04	\$87,595.56	\$116,794.08	\$134,762.40	\$134,762.40	\$134,762.40
Gifts								
Institutional Reallocations								
Total Revenue	\$0.00	\$28,626.00	\$58,397.04	\$87,595.56	\$116,794.08	\$134,762.40	\$134,762.40	\$134,762.40

Faculty calculations assume 40% benefits and 2% raise each year.

GA Tuition assumes 9 credit hours in Fall and Spring semesters, and 6 credit hours in Summer; assumes 2% increase in tuition costs each year.

Appendix B: Industry and Academic Letters of Support



TENNESSEE FARM BUREAU FEDERATION

April 18, 2022

Dr. Christopher Stripling
University of Tennessee
Agricultural Leadership, Education & Communications
320 Morgan Hall, 2621 Morgan Circle
Knoxville, TN 37996-4511

To Whom it May Concern:

As agriculture expands and adapts to meet the everchanging world around us, individuals with a high level of expertise in leadership, education and communications are vital to the future success of our most important industry. Thankfully, the University of Tennessee's Department of Agricultural Leadership, Education and Communications, within the Herbert College of Agriculture and the University of Tennessee Institute of Agriculture, is utilizing research-based educational experiences to prepare students to lead this effort. The department's proposal for a Doctor of Philosophy (PhD) degree will add great value to this endeavor and further the knowledge and experience of students eager to make a difference in agriculture.

Farmers are the backbone of Tennessee agricultural production, but agricultural education teachers, agribusiness professionals, Extension agents, communication specialists and many others are crucial to ensure farmers can continue to provide food, fiber and fuel for the world. U.S. demand for college graduates with degrees and expertise in agriculture and natural resource disciplines is expected to exceed the number of available graduates by nearly forty percent between 2020 and 2025, according to a National Institute of Food and Agriculture (NIFA) report. We are confident this proposed doctoral degree will ensure we are preparing students to meet the employment demands. With a focus on teaching, leadership development, communications, Extension and youth development and international human development, the PhD program will concentrate on what we believe will carry agriculture towards a successful future.

In Tennessee, impressive agricultural educators and communicators combined with a stellar Extension service provide great opportunity for students seeking a higher education degree in this field. We believe as the land grant institution of the state, the University of Tennessee will be the perfect fit for this degree program and will benefit employers, organizations, agriculturalists and many others in the state of Tennessee and across the country.

We support this UTIA proposal for a PhD degree in agricultural leadership, education and communications and urge the University of Tennessee at Knoxville and the Tennessee Higher Education Commission to approve it. Thank you for your time and consideration.

Sincerely,

Eric Mayberry
President



April 4, 2022

Dr. Christopher Stripling
 Professor & Head, Agricultural Leadership, Education and Communications
 University of Tennessee
 320 Morgan Hall
 2621 Morgan Circle Drive
 Knoxville, TN. 37966-4518
 865-974-7371

Dear Dr. Stripling,

I am excited to write a letter of support for your proposed Doctor of Philosophy (Ph.D.) degree in Agricultural Leadership, Education and Communications (ALEC). This advanced degree will provide formal and nonformal educators including our 6-12 agricultural education teachers the opportunity to continue their professional development. The advanced knowledge, skills, and research competencies obtained by completing an ALEC Ph.D. will enhance our secondary classrooms and prepare individuals to assume educational and industry leadership roles. The degree should also be attractive to students with a variety of experiences and educational backgrounds such as rural and urban communities and individuals from the public and private sectors.

The ALEC program has an impressive group of faculty from across the United States that delivers high-quality student experiences. This is evident by your program receiving the Outstanding Postsecondary Program Award from the National Association of Agricultural Educators and the innovative professional development programs that have been funded by USDA for secondary science and agriculture teachers.

I am hopeful your proposal is approved and am willing to assist you and your department in promoting the new degree and serve as an external advisory resource.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven W. Gass".

Mr. Steve W. Gass
 Program Manager, Agriculture, Food, and Natural Resources
 Tennessee Department of Education



Office of the Dean
 121 Morgan Hall
 2621 Morgan Circle Drive
 Knoxville, TN 37996-4530
 865-974-7114
<https://extension.tennessee.edu>

April 22, 2022

Dr. Christopher Stripling
 Professor & Head
 Agricultural Leadership, Education and Communications
 University of Tennessee
 320 Morgan Hall
 2621 Morgan Circle Drive
 Knoxville, TN. 37966-4518
 865-974-7371

Dr. Stripling,

UT Extension's mission is to help Tennesseans improve their quality of life and solve problems through the application of research and evidence-based knowledge about agriculture and natural resources, family and consumer sciences, 4-H youth development, and community development. With that in mind, I enthusiastically support the proposed Doctor of Philosophy (Ph.D.) degree in Agricultural Leadership, Education and Communications (ALEC) as this program supports our mission and will provide opportunities for our employees to develop expertise and skills that will help us improve the lives of Tennesseans.

As part of our employee benefits, UT Extension provides employees the opportunity to take academic courses and pursue advanced degrees. Approximately, 20 UT Extension employees are enrolled in ALEC's Master of Science program, and I foresee our employees also taking advantage of the ALEC Ph.D. to develop higher levels of expertise and effectiveness. The proposed Ph.D. program will provide a means for us to continue to develop our human capital, and the academic and research requirements of the program will enable our employees to enhance their educational program design and evaluation skills and be a catalyst for innovation.

To that end, the ALEC program is a leader in educational innovation within the University of Tennessee. ALEC's expertise in teaching and learning, communication, and leadership were invaluable as the University of Tennessee Institute of Agriculture pivoted during COVID-19. With the help of ALEC, UT Extension was able to effectively deliver educational programming online, develop virtual communities of practice, and create a clearinghouse of digital 4-H programming resources. I have seen firsthand the dedication of the ALEC faculty and know graduates of the proposed PhD program will enhance the agriculture industry and make a difference in our local Tennessee communities.

I support the proposed Ph.D. and recommend approval of the program.

Sincerely,

Ashley M. Stokes, DVM, PhD, MBA
 Dean & Professor

800 Morrow St, Dresden, TN 38225
T 731.681.1171 F 731.681.1172 | e-farmcredit.com

April 22, 2022

Dr. Christopher Stripling
Professor & Department Head
The University of Tennessee
Agricultural Leadership, Education and Communications
320 Morgan Hall, 2621 Morgan circle Drive
Knoxville, TN 37996-4511



Dear Dr. Stripling,

Farm Credit Mid-America is committed to securing the future of rural communities and agriculture. Fostering and developing the next generation of educated professionals is critical for the continued strength of American agriculture.

Our Association is pleased to support the Department of Agricultural Leadership, Education, and Communication's (ALEC) proposal for a Doctor of Philosophy (PhD) program in ALEC.

The proposed focus areas in the new PhD program of Teaching and Learning, Leadership Development, Communications, Extension and Youth Development, as well as International Human Development align well with the operational needs of agricultural cooperatives like ours.

We understand the value of hiring team members with relevant experience and dedicated expertise across multiple disciplines. Subject-matter experts not only bring innovative ideas to Association operations, but most importantly, add strategic value to our customers' lives through research-based guidance.

Supporting rural communities and agriculture means supporting the next generation of agricultural professionals. We believe the proposed PhD program in ALEC is an excellent opportunity to enrich and empower the future leaders of agriculture.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tim Williams", with a large, sweeping loop at the end.

Tim Williams
Senior Vice President
Farm Credit Mid-America



Farm Credit Mid-America, ACA



Farm Bureau Health Plans
147 Bear Creek Pike
PO Box 313
Columbia, TN 38402-0313
877-874-8323
fbhealthplans.com

Dr. Christopher Stripling
University of Tennessee: Agricultural Leadership, Education and Communications
2621 Morgan Circle, 320 Morgan Hall
Knoxville, TN 37996

September 6, 2022

Dear Dr. Stripling,

I am very pleased that ALEC is planning to implement a doctoral program. For many years I have been interested in pursuing a doctoral degree for a specific area of research but have not found a program that offered the right mixture of integrity, research, and flexibility. An ALEC PhD program would be a seamless fit of flexibility and applicability for the research I have in mind.

At Farm Bureau Health Plans, we offer health coverage targeted specifically at rural and agricultural areas of the state. My master's research (M.S., Ag Economics) was in the broad area of economic development in rural areas of Tennessee. Studying the systematic underpinnings that foster economic development made me realize that an economic analysis of decision making allows for public and economic policies to be tailored to suit specific goals. Much like interest in the drivers of economic development, I am fascinated with the consumer purchase decision processes of healthcare, whether directly purchasing healthcare or purchasing health insurance. Thus, my area of research interest is the *price elasticity of healthcare in rural areas*.

The economic outcomes of rural communities are directly tied to the health outcomes of those communities. Health outcomes are most often driven by individual lifestyles and, more pertinently, individual choices of community members. Those individual healthcare choices are heavily influenced by economic considerations (i.e., price). If the elasticity of healthcare prices can be ascertained, then healthcare uptake can be improved. Better healthcare uptake results in better healthcare outcomes, which results in better economic outcomes.

Due to its applied nature, the proposed ALEC PhD program is an ideal context for studying the socioeconomic, personality, and communication and purchasing behaviors of individuals in rural communities. Conducting this research under the guidance of experienced researchers in ALEC will assure that research parameters are well matched with the data needs, as well as assure that the outcomes are communicated in a way to develop subsequent research and application into rural economic development.

The ALEC PhD program will fill a need in Tennessee by increasing our state's capacity for applied research that is not detached from the average household. Investigating social systems through an applied leadership, education, and communication lens increases our chances of discoveries that may lead to improvements in public health, our workforce, and rural and underserved communities.

Best Regards,

A handwritten signature in blue ink, appearing to read "Ben Sanders".

Benjamin Sanders

Executive Director of Government Affairs, Farm Bureau Health Plans



**Department of Agricultural
and Resource Economics**

302 Morgan Hall
2621 Morgan Circle
Knoxville, TN 37996
main: 865-974-7231
fax: 865-974-7484
economics.ag.utk.edu

September 7, 2022

Dr. Christopher Stripling
Professor and Head
Department of Agricultural Leadership, Education, and Communications
University of Tennessee, Knoxville
320 Morgan Hall
2621 Morgan Circle
Knoxville, TN 37996

Dear Dr. Stripling,

I am writing this letter in support of the proposed PhD program in Agricultural Leadership, Education, and Communication at the University of Tennessee, Knoxville.

I recently heard news of the proposed program and was immediately interested in the possibilities it could potentially represent. As a faculty member in the Department of Agricultural and Resource Economics at UT Knoxville engaged in a 100% teaching appointment, the opportunity to pursue a terminal degree in this field of study has many potential benefits for my students and me. The academic rigor of a program of this type has the potential to bring about personal growth, new skills, and innovative thinking that will no doubt increase my efficacy as an educator.

I strongly support the creation of this program, and I look forward to discussing these possibilities with you in the future.

Sincerely,

Jonathan Walton
Senior Lecturer and Undergraduate Director
Department of Agricultural and Resource Economics
University of Tennessee, Knoxville
865-386-6702
jcwalton@utk.edu



July 13, 2022

Christopher Stripling, PhD
Professor and Head
ALEC Department
University of Tennessee
320 Morgan Hall, 2621 Morgan Circle
Knoxville, TN 37996-4511

Dear Dr. Stripling,

I am happy to submit this letter of support for the PhD in Agricultural Leadership, Education and Communications in your department at the University of Tennessee. The highly qualified group of professors in the ALEC Department are viewed around the country as some of the most competent in the profession, and the need for this type of program in Tennessee and across the Southern Region is great. Therefore, I strongly recommend this program be approved in Tennessee. In addition, My ALEC faculty at Tennessee State University offer our assistance in program development and delivery just as UTK ALEC has done the same for us and our programs in all areas of the land-grant system.

Sincerely,

A handwritten signature in cursive script that reads "John C. Ricketts".

John C. Ricketts, PhD
Professor of Agricultural Education
Tennessee State University
jrickett1@tnstate.edu
615-630-0526 - Phone



July 7, 2022

Carrie Stephens, PhD
Agriculture Leadership, Education, and Communications
UT Institute of Agriculture
University of Tennessee

Dear Carrie,

The College of Communication & Information (CCI) is fully supportive of the proposed PhD Program in Agricultural Leadership, Education, and Communications.

CCI will provide seats in courses, as appropriate, for UTIA students to take electives in communication and information to support their learning and research endeavors.

We look forward to the success of the new PhD program.

Sincerely,

Joseph P. Mazer
Dean

Office of the Dean
College of Communication & Information
302 Communications Building, Knoxville, TN 37996-0332
865-974-3031 865-974-3896 fax cci.utk.edu

Flagship Campus of the University of Tennessee System



Claxton Education Building
1122 Volunteer Boulevard
Knoxville, TN 37996-0315
865-974-0765
cehhs.utk.edu

**BIG ORANGE.
BIG IDEAS.**
Flagship Campus of the
University of Tennessee System 

July 7, 2022

Carrie Stephens, PhD
Agriculture Leadership, Education, and Communications
UT Institute of Agriculture
University of Tennessee

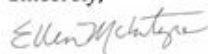
Dear Carrie,

The College of Education, Health, and Human Sciences (CEHHS) is fully supportive of the proposed PhD Program in Agricultural Leadership, Education, and Communications. CEHHS has had a long successful relationship with UTIA through agriculture education programs, which will continue via the new PhD program.

Our education departments will provide seats in courses, as appropriate, for UTIA students to take electives in education to support their learning and research endeavors.

We continue to be pleased with our partnership and look forward to the success of the new PhD program.

Sincerely,



Ellen McIntyre, Dean
College of Education, Health, and Human

Appendix C: Overview of the UT Institute of Agriculture

The University of Tennessee Institute of Agriculture comprises four units that provide instruction, research, and public service: AgResearch, Herbert College of Agriculture, College of Veterinary Medicine, and UT Extension. AgResearch is an integral partner in teaching programs throughout the Institute.

- **AgResearch** faculty conduct world-class research programs in various areas, including crop breeding and genetics, soil conservation, no-till crop production, cattle reproduction, wood product development, and many others. AgResearch is also a key funding source for graduate assistantships and research that graduate students undertake in their degree programs. The internship program of AgResearch offers undergraduates unparalleled field experience. The unit's ten branch research facilities serve as field laboratories for faculty and students while allowing the public to evaluate research trials and experience gardens and arboretums. Technologies developed by UTIA's researchers benefit producers and consumers alike.
- **The Herbert College of Agriculture** welcomes students from across Tennessee, the nation, and the world. The College offers academic programs in various natural and social science-based disciplines that apply to the food, fiber, and natural resources systems. For Herbert College of Agriculture students, learning is personal and often hands-on. Student teams provide opportunities for self-directed study, leadership development, and much fun. A new honors research and creative achievements program challenges students to excel. International study tours give graduates an edge in the increasingly connected world of global markets.
- **The College of Veterinary Medicine (CVM)** is one of only 30 veterinary colleges nationwide. It is also a national leader in creating a collection of virtual microscope slides that students can access from the convenience of their personal computers. New services in equine sports medicine offer students opportunities, as does the expansion of the college's facilities. The College serves pet owners, zoos, and the livestock industry; it protects public health, enhances medical knowledge, and generates economic benefits to the state and nation. Outreach programs engage many citizens in learning programs that explore the animal-human bond.
- **UT Extension** has an office in every county of Tennessee. Educational programs offered by the University of Tennessee Extension touch the life of every citizen in Tennessee daily. UT Extension delivers research-based programs that improve lives, build stronger families, and strengthen communities. As a partner with local, state, and national agencies and through its statewide presence, Extension provides educational programming and assistance in areas of agriculture, natural resources and resource development, family and consumer sciences, and 4-H youth development.

The goals of the proposed doctoral program are very complementary to the UT mission statement, Institute of Agriculture initiatives, and the Graduate School mission statement cited above.

Appendix D: Other Existing Programs

Table A1.

Other Agriculture, Leadership, Education, and Communication Ph.D. Programs in Tennessee

Institution Name	Program Title/Major and Degree Designation	CIP Code	Degrees Awarded 2020-2021
Tennessee Technological University	Environmental Sciences	01.03.0103.00	1*
University of Memphis	Communication, PhD	05.09.0102.00	2*
UT Knoxville	Agriculture, General	01.00.0000	8*
UT Knoxville	Animal Science, PhD	01.01.0901.00	2*
UT Knoxville	Biosystems Engineering/Soil Science, PhD	09.14.0301.00	3
UT Knoxville	Communication and Information, PhD	05.09.0102.00	6*
UT Knoxville	Education, PhD	08.13.0101.00	12*
UT Knoxville	Entomology, Plant Pathology, and Nematology, PhD	01.01.1105.00	1
UT Knoxville	Food Science, PhD	01.01.1001.00	4*
UT Knoxville	Natural Resources, PhD	01.03.0101.00	3*
UT Knoxville	Plant, Soil and Environmental Sciences, PhD	01.01.0000.00	5

*<https://nces.ed.gov/collegenavigator/>

Table A2.*Similar Ph.D./EdD Programs at Other Land Grant Institutions*

State	University	College	Department/Program (all Ph.D. programs except where noted)
AR	University of Arkansas	Dale Bumpers College of Agricultural, Food, and Life Sciences	Agricultural Education, Communication and Technology Concentration/ Agricultural, Food and Life Sciences
FL	University of Florida	College of Agricultural and Life Sciences	Agricultural Education and Communication
GA	University of Georgia	College of Agricultural and Environmental Sciences	Agricultural Leadership, Education, and Communication
IA	Iowa State	College of Agriculture and Life Sciences	Agricultural Education
IN	Purdue University	College of Agriculture	Agricultural Sciences Education and Communication
LA	Louisiana State University	College of Agriculture	Agricultural and Extension Education
MS	Mississippi State University	School of Human Sciences	Agricultural Sciences with conc. in Agricultural and Extension Education
MO	University of Missouri	College of Agriculture, Food & Natural Resources	Agricultural Education and Leadership
NE	University of Nebraska-Lincoln	College of Agricultural Sciences and Natural Resources	Agricultural Leadership, Education, and Communication - Human Sciences with specialization in Leadership Studies
NC	North Carolina State University	College Agriculture and Life Sciences	Agricultural and Extension Education, Ed.D.
OH	Ohio State University	College of Food, Agricultural, and Environmental Sciences	Agricultural Communication, Education, and Leadership
OK	Oklahoma State University	Ferguson College of Agriculture	Agricultural Education, Communication, and Leadership
PA	Pennsylvania State University	College of Agricultural & Life Sciences	Department of Agricultural Economics, Sociology, and Education/ Education, Development, and Community Engagement
SC	Clemson University	College of Agricultural, Forestry, and Life Sciences	Agricultural Education
TX	Texas A & M University	Gordan W. Davis College of Agriculture and Life Sciences	Agricultural Leadership Education and Communication
VA	Virginia Tech	College of Agriculture and Life Sciences	Dept. of Agricultural, Leadership, and Community Education- Life Sciences Agricultural Education
WV	West Virginia University	Davis College of Agriculture, Natural Resources and Design	Agricultural and Extension Education

Table A3.*Selected State Occupational Employment and Wage Estimates for Tennessee, May 2020*

Related Occupation	Occupation Code	Largest Employer	Annual Mean Wage
Conservation Scientists	19-1031	Federal, State, and Local Govt, Social Advocacy Orgs., and Management/Scientific/Technical Consulting Services	\$71,960
Environmental Scientists and Specialists, Including Health	19-2041	Management/Scientific/Technical Consulting Services, Social Advocacy Orgs., and Federal, State, and Local Govt	\$68,980
Forestry and Conservation Science Teachers, Postsecondary	25-1043	Colleges, Universities, Professional Schools, Junior Colleges	\$109,690
Environmental Science Teachers, Postsecondary	25-1053	Colleges, Universities, Professional Schools, Junior Colleges	\$80,610
Communications Teachers, Postsecondary	25-1122	Colleges, Universities, Professional Schools, Junior Colleges, Technical and Trade Schools	\$62,500



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

3

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Consent Agenda**

Type: Action

Presenter: John C. Compton, Chair of the Board and Committee Chair

Background Information

Items on the Consent Agenda are not presented or discussed in the Committee unless a Committee member requests that an item be removed from the Consent Agenda. In accordance with the Bylaws, before calling for a motion to approve the Consent Agenda, the Chair will ask if any member of the Committee requests that an item be removed from the Consent Agenda. The Bylaws provide that an item will not be removed from the Consent Agenda solely for the purpose of asking questions for clarification. Those questions should be presented to the Secretary before the meeting.

Committee Action

If there are no requests to remove items on the Consent Agenda, the Chair will call for a motion to omit the reading of the minutes of the prior meeting and to approve the items on the Consent Agenda.



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

3.1

MINUTES OF THE EXECUTIVE COMMITTEE September 9, 2022

The Executive Committee of The University of Tennessee Board of Trustees met at 9:00 a.m. (EDT) on Friday, September 9, 2022. The meeting was held virtually with all Committee members participating electronically or by telephone. The meeting was hosted from the University of Tennessee, Knoxville campus.

Committee Members Present: John C. Compton, Board Chair; William (Bill) C. Rhodes III; Donald J. Smith; and Jamie Woodson.

Others in Attendance:

Trustees: Commissioner Charles Hatcher and David N. Watson.

University Officers: President Randy Boyd; Brian Daniels, Chief Audit and Compliance Officer; David Miller, Senior Vice President and Chief Financial Officer; Cynthia Moore, Secretary and Special Counsel; Stacey Patterson, Vice President for Research, Outreach and Economic Development; Ryan Stinnett, General Counsel; Chancellors Steve Angle (UTC), Peter Buckley (UTHSC), Keith Carver (UTM), Linda Martin (UTS), and Donde Plowman (UTK); and other members of the senior leadership team.

Ms. Moore announced the presence of a quorum. The meeting was webcast for the convenience of the University community, the general public, and the media.

Remarks of the Committee Chair

Board Chair John C. Compton, who also serves as Chair of the Executive Committee, opened the meeting by announcing that President Randy Boyd's update would include positive news on a number of fronts, including enrollment growth across all campuses.

Ohio Valley Conference Certification

Chair Compton informed the members of the Board that UT Martin is a member of the Ohio Valley Conference. The Conference requires a signed certification from the Board Chair confirming that:

- Responsibility for the administration of the athletics program has been delegated to the chief executive officer of the institution (the Chancellor of UTM);

- The chief executive officer has the mandate and support of the board to operate a program of integrity in full compliance with NCAA, Ohio Valley Conference, and all other relevant rules and regulations; and
- The chief executive officer, in conjunction with the Director of Athletics and Faculty Athletic Representative, determines how the institutional vote shall be cast on issues of athletics policy presented to the NCAA and the Ohio Valley Conference.

He noted that these statements are consistent with and reflected in the Board's Policy on Oversight of Intercollegiate Athletics and that he would be signing the certification form following the meeting.

Update from the President

Admissions

President Boyd began his update by noting that total enrollment across the UT System has increased by almost 4%, with undergraduate enrollment increasing by nearly 5% and freshmen enrollment up 12.2%. He reported that both transfer enrollment and graduate student enrollment also grew over the prior year.

He briefly reviewed key enrollment highlights for each of the UT System's campuses:

- UTK: Total enrollment increased from 31,701 in AY 2021-22 to 33,805 in AY 2022-2023, with undergraduate enrollment increasing by 7.9%, freshmen enrollment increasing by 15%, and transfer student enrollment increasing by 9%.
- UTC: While total enrollment declined by 1.5%, the campus experienced an 8.2% growth in freshmen enrollment and a 5.9% increase in graduate student enrollment.
- UTM: Total enrollment increased by 2.3%, with freshmen enrollment increasing by more than 6%, transfer student enrollment increasing by 5.7%, and graduate student enrollment increasing by 19%.
- UTS: Total enrollment increased by 6.6%, with transfer student enrollment increasing by 28.4% and graduate student enrollment increasing by 16.7%.
- UTHSC: Total enrollment declined by 3%*; however, undergraduate enrollment increased 11.7% and transfer student enrollment increased by more than 17%.

* The decrease in total enrollment can be attributed, in part, to a recent change that compressed the time it takes students to graduate from a program offered by the UTHSC.

President Boyd noted, as a land grant university, the UT System's mission is to be accessible and serve more people across the State of Tennessee. President Boyd thanked the Trustees for making enrollment growth a priority and for supporting the UT System and its campuses in those efforts.

In response to comments made by Trustees, President Boyd noted that the availability of student housing is a very important consideration as the University continues to grow its student population at all campuses. President Boyd and the Chancellors discussed a number of factors that impact the availability of on-campus housing for undergraduate students, including the current process for getting approval from the State for the construction of new residence halls and local development activities. Graduate and professional students are also impacted by the shortage of affordable housing. Following discussion, Chair Compton asked the Administration to provide more information on the capital planning process in connection with the Fall Meeting of the Board.

UT Promise: Moving Students Closer to a Debt-Free Degree

President Boyd provided an update on the UT Promise, which was introduced in 2019. At the time the program was introduced, students whose family incomes were less than \$50,000 could attend any UT campus free of tuition and fees. Since that time, the University has increased the income threshold to \$60,000 in order to expand the number of Tennessee residents that are eligible to participate. To ensure that students continue to take advantage of the benefits of the UT Promise program, President Boyd stated that he recently embarked on a tour, which has seen him travel more than 3,700 miles to visit 5,000 students at 21 high schools. When the UT Promise tour is completed, President Boyd will have visited 25 high schools.

President Boyd noted that the tour has generated excitement and interest in students and their families, as well as positive media coverage, including a recent article published by *The Tennessean*. He reminded the Trustees that 46% of UT's students graduate with no debt, which runs counter to the level of debt faced by college students across the country.

Institute for American Civics

President Boyd announced that the inaugural Board of Fellows for the Institute for American Civics has been appointed. Among the many notable appointees to the Board of Fellows are: Former Governor Phil Bredesen (2003-2011); Former Governor Bill Haslam (2011-2019); and Former U.S. Ambassador Arthur B. Culvahouse Jr., who will serve as Chair of the Board of Fellows. The Board of Fellows will be charged with two primary assignments: (i) drafting Bylaws for the Institute; and (ii) leading a search for the Institute's inaugural Director.

Best Places to Work

President Boyd advised the Board that to ensure that the University is operating at its highest levels, it is essential that employees feel satisfied and engaged. To do so, the University utilized the services of Great Place to Work®, a national company specializing in measuring employee satisfaction, to survey employees across the UT System. After conducting the survey, the University was recognized as a “2022 Great Place to Work.” Employees gave UT high marks for: (i) being a safe place to work; (ii) creating a culture where they feel comfortable taking time off of work; (iii) being given appropriate levels of responsibility; (iv) feeling good about the University’s contributions to the community; and (v) fostering an environment in which they can take pride. President Boyd stated that UT intends to participate in the survey annually, while continuing to develop innovative methods to ensure employee satisfaction.

Leadership Changes

President Boyd reminded the Committee members that Stacey Patterson, Vice President for Research, Outreach and Economic Development, would be leaving the UT System in October. He thanked Dr. Patterson for her extraordinary service, including her work to establish the UT Oak Ridge Innovation Institute. President Boyd advised that he intends to separate the portfolio of responsibilities so that there is: (i) a Vice President for Research; (ii) a President of the UT Research Foundation; and (iii) an Associate Vice President for Economic Development. He indicated that the Associate Vice President position will be held by Victoria Hirschberg, who currently serves as Business Development Director for the Tennessee Department of Economic and Community Development. Searches will be conducted for the positions of Vice President for Research and President of the UT Research Foundation, and interim appointments will be made.

Chair Compton expressed his gratitude to Dr. Patterson for her service and the impact she has had on the University. Dr. Patterson thanked President Boyd, Chair Compton, and the Board, adding that her service at UT has been the highlight of her career.

Fiscal Year 2023-2024

President Boyd advised the Committee members that the University has been working on its appropriation request for Fiscal Year 2023-2024, including submitting the Capital Priorities approved by the Board at its Annual Meeting in June. He expressed hope that the State will continue its generous support of the UT System.

Approval of Minutes

The minutes of the May 6, 2022 meeting (Tab 1) were approved without correction.

Planning for Upcoming Board and Committee Meetings

Chair Compton then reviewed the key topics planned for the upcoming meetings of the Board and its Committees, which will be held at UTM on October 27 and 28, 2022. He noted that the agenda for the Education, Research and Service Committee will include an update on the post-tenure review process, which was paused during the pandemic. At the recommendation of Trustee Rhodes, the schedule for the Fall Meeting of the Board will include a tour of the UT Martin campus.

Closing Remarks

Chair Compton noted over the past four years, he has, personally, experienced an increase in the number of families providing him with positive feedback on their children's experiences at UT - from arrival through graduation. He thanked President Boyd and his team for their efforts to ensure that students and their families have a favorable, lasting impression of the University.

With no further business to come before the Committee, the Chair adjourned the meeting.

Respectfully Submitted,

/s/Cynthia Moore

Cynthia C. Moore
Secretary and Special Counsel



THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

3.2

AGENDA ITEM SUMMARY

Meeting Date: January 20, 2023

Committee: Executive

Item: **Approval of Board Meeting Dates (2023)**

Type: Action

Background Information

Pursuant to Section 3.1 of the Bylaws, the Board of Trustees shall hold at least three (3) regular meetings annually on a day or days determined by the Board from year to year. The proposed meeting dates for the regular meetings of the Board for calendar year 2023 are presented below.

Resolved:

The Executive Committee, on behalf of the Board of Trustees, hereby approves the following dates for the 2023 regular meetings of the Board.

2023

Winter Meeting	February 23-24, 2023
Annual Meeting	June 29-30, 2023
Fall Meeting	October 12-13, 2023