



TENNESSEE HIGHER EDUCATION COMMISSION

REGULAR CALENDAR ITEM: I.G.

MEETING DATE: May 15, 2025

SUBJECT: New Academic Program
University of Tennessee, Knoxville
Sustainability, Master of Science (MS)

ITEM TYPE: Action

PROGRAM OVERVIEW

Title and Designation	Sustainability, Master of Science (MS)
Concentrations	<ol style="list-style-type: none">1. Sustainable Business Practices2. Governance and Policy3. Ecological Sustainability4. Community Engagement and Social Justice5. Sustainable Development6. Urban Sustainability7. Sustainable Water Management8. Sustainable Technologies9. Climate Change and Adaptation
Accreditation	No programmatic accreditation applicable.
CIP Code and Description	30.3301 (Sustainability Studies): A program that focuses on the concept of sustainability from an interdisciplinary perspective. Includes instruction in sustainable development, environmental policies, ethics, ecology, landscape architecture, city and regional planning, economics, natural resources, sociology, and anthropology. Examples: Sustainability, Sustainable Living, Organizational and Environmental Sustainability, and Sustainability Studies.
SOC Code and Title	<ul style="list-style-type: none">▪ 11-9121 -- Natural Sciences Managers▪ 19-1031 -- Conservation Scientists▪ 19-2041 -- Environmental Scientists and Specialists, Including Health▪ 19-3051-- Urban and Regional Planners▪ 19-3099 -- Social Scientists and Related Workers, All Other▪ 19-4042 -- Environmental Science & Protection Technicians, Including Health▪ 25-1199 -- Postsecondary Teachers, All Other
Credit Hours	30
Implementation Date	August 1, 2025
Modality and Delivery Site	Majority On-Ground (Hybrid)
Department/College	College of Emerging and Collaborative Studies (CECS)
Governing Board Approval Date	February 27-28, 2025

ALIGNMENT WITH STATE MASTER PLAN AND INSTITUTIONAL MISSION/STRATEGIC PLAN

The proposed Master of Science (MS) in Sustainability at the University of Tennessee, Knoxville (UTK) will be housed in the College of Emerging and Collaborative Studies (CECS), which engages students in new fields of study that tend to be highly interdisciplinary and therefore, do not fit within conventional colleges or departments on campus. The proposed program was designed by a curriculum committee of 14 faculty members who teach sustainability-related courses across seven colleges and is intended to meet increasing demand for sustainability professionals in industry, academics, and government. The Sustainability, MS will offer a foundational understanding of sustainability concepts, data sources, and tools through interdisciplinary instruction.

The Sustainability, MS aligns with the State Master Plan for Higher Education by offering a degree designed to address workforce demand in the state, specifically by preparing students for the “future workforce” in sustainability. The proposed program was developed in partnership with industry, aligning with imperatives for “leveraging employer and workforce partnerships” as well as preparing students for the “future of work.” Further, the program is intended to meet the needs of historically underserved students, including older and/or non-traditional students, through its flexible modality and completion timeline. The program aligns with UTK’s mission to “advance the prosperity, well-being, and vitality of communities across Tennessee and around the world through our research, teaching, service, and engagement.” The proposed Sustainability, MS will emphasize community engagement and hands-on learning and community impact and will also strengthen ties with partners like the Oak Ridge National Laboratory. Further, the program aligns with UTK’s goal of preparing its graduates to be industry, government, and community leaders.

PROGRAM DUPLICATION

The proposed program would be the first Master of Science in Sustainability offered at a public institution in Tennessee. Lipscomb University offers a Sustainability, MS, however, UTK’s proposed program differs due to the wide range of range of concentrations available for students.

WORKFORCE ALIGNMENT

The proposed program addresses growing need across various sustainability sectors, which are anticipated to increase by 8.6% through 2028, translating to 39,621 jobs regionally. The largest area of employment for sustainability is as natural science managers, environmental and health scientists, and urban/regional planners. Several occupations aligned to the proposed program—including natural sciences managers, conservation scientists, environmental scientists and specialists, and environmental science and protection technicians—are categorized as O*NET Bright Outlooks (expected to have 100,000+ openings from 2022-2032 and to grow much faster than average occupations).

Data from Lightcast, a labor market analytics firm, showed 26,080 unique job postings from October 2023—September 2024 for sustainability positions. Employer demand is highest in Virginia and Florida, and moderate in Tennessee, totaling 2,832 jobs in the state. Knoxville, Tennessee ranked fourth for unique job posting, with 514 unique job ads available when analysis was conducted.

CURRICULUM

The proposed Master of Science in Sustainability will be offered primarily on-ground, with some online course options, and will consist of 30 credit hours, 12 of which will be core courses. Students

will complete nine credit hours in two of the nine proposed concentrations (18 credit hours total). All students will complete three to six credit hours of internship, research, or thesis, providing hands-on experience with the application of content learned in core classes. The proposed Sustainability, MS is designed for recent graduates of bachelor's programs and returning career professionals interested in furthering their academic credentials, particularly those working in industry and government fields where sustainability is emerging as a critical area of concern.

The proposed program's curriculum is designed to equip students with practical skills and experiences that make them competitive in a variety of career paths, including those that require interdisciplinary expertise, and draws on existing expertise at UTK across 20 distinct disciplines. Students will benefit from the program's interdisciplinarity, and also from existing college staff such as the Director of Partnerships and Economic Engagement, who partners with industry to provide students with real-world projects.

PROJECTED ENROLLMENT AND GRADUATION

	2025-26	2026-27	2027-28	2028-29	2029-30
Enrollment	10	25	40	60	80
Graduates	0	9	23	36	53

STUDENT INTEREST AND COMMUNITY PARTNERSHIPS

An interest survey for the proposed program was administered to undergraduate students in Geology and Environmental Studies, and to Sustainability majors at UTK on July 1 and July 25, 2024, via listserv and in three summer courses. The survey resulted in 38 respondents completing the survey as of July 25, 2024, and found that 47% (n=18) expressed that they are "Extremely Likely" to be interested in pursuing the proposed Sustainability, MS program. Nationally, the market for master's degrees in sustainability exceeds 15,000 completions per year, while the southeast regional market share is 17% (2,746), demonstrating a scope for growth.

The proposed Sustainability, MS program builds upon existing industry and community support for the College of Emerging Collaborative Studies (CECS). Letters of support indicate interest in the transdisciplinary approach of the degree as well as willingness to support internship opportunities. Support letters were provided by Holocene Climate Corporation; US Solar Alliance Southeast, LLC; Chattanooga Technology Council (ChaTech); DENSO International America, Inc.; EPB (formerly Electric Power Board) of Chattanooga; Tullahoma Area Economic Development Corporation; PYA, P.C Healthcare Consulting; Truist Bank; United Cleanup Oak Ridge, LLC; Eastman Chemical Company; and Volkswagen Group of America.

EXTERNAL JUDGMENT

A virtual external review of the proposed program was conducted on December 4, 2024, by Dr. Joe Árvai, the Dana and David Dornsife Professor of Psychology, Biological Sciences, and Environmental Studies and Director of the Wrigley Institute for Environment and Sustainability at the University of Southern California. The site visit included meetings with university leadership, faculty, and students, as well as industry and community partners. Dr. Árvai praised the proposed program for its "clever and robust" curriculum and the structure of the program and college, which will allow students to "take advantage of contextual and interdisciplinary depth that is being developed within the CECS and the disciplinary depth that exists within units at UTK." Dr. Árvai also noted that in addition to

being unique, the required concentrations and collaborative experiences for students working across disciplines will “result in graduates with diversified portfolios of knowledge which should make them even more competitive for jobs.” Dr. Árvai recommended approval of the proposed program, writing that the proposed program is “well justified, carefully constructed, and clear.”

PROGRAM COSTS AND REVENUES

The proposed expenditures for the MS in Sustainability are listed in Table 1 below. Most expenditures are related to the hiring of a full-time Professor of Teaching to teach core courses in the proposed program, and to support the hiring of a Faculty Fellow to develop the curriculum in the planning year. The program will also utilize graders, and since these positions will be paid hourly rather than through assistantships, the costs are included under the “Faculty & Instructional Staff” section.

Table 1: Estimated Costs to Deliver the Proposed Program

<i>Estimated Costs to Deliver the Proposed Program</i>						
One-Time Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff	\$20,000					
Non-Instructional Staff						
Graduate Assistants						
Accreditation						
Consultants	\$2,000					
Equipment						
Information Tech		\$2,500				
Library						
Marketing						
Facilities						
Travel						
Other						
<i>Total One-Time Expenditures</i>	<i>\$22,000</i>	<i>\$2,500</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
Recurring Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff	\$0	\$168,144	\$179,492	\$194,189	\$205,839	\$220,846

Non-Instructional Staff		\$3,200	\$9,600	\$19,200	\$25,600	\$35,200
Graduate Assistants						
Accreditation						
Consultants						
Equipment						
Information Tech						
Library						
Marketing		\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Facilities						
Travel						
Other						
<i>Total Recurring Expenditures</i>	\$0	\$173,344	\$191,0092	\$215,389	\$233,439	\$258,046
Grand Total (One-Time and Recurring)	\$22,000	\$175,844	\$191,092	\$215,389	\$233,439	\$258,046
Projected Revenues						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Tuition		\$172,188	\$533,783	\$952,774	\$1,653,005	\$1,985,902
Grants						
Other						
Total Revenues	\$0	\$172,188	\$533,783	\$952,774	\$1,653,005	\$1,985,902