



## **ACADEMIC & STUDENT AFFAIRS COMMITTEE**

**December 2, 2021**

**Roaden University Center, Room 282**

### **AGENDA**

- I. Call to Order
- II. Approval of Minutes for the October 7, 2021 Committee Meeting
- III. Mental Health Update
- IV. Update on Research Activities
- V. Faculty Workload Policy 208
- VI. Strategic Plan for Online Education
- VII. Online and Distance Education Policy 223
- VIII. B.S. in Animal Science
- IX. Expedited Letter of Notification for the B.S. in Interdisciplinary Computing and Innovation
- X. Quality Assurance Funding
- XI. Other Business
- XII. Adjournment



**Board of Trustees  
Academic and Student Affairs Committee Meeting  
October 7, 2021  
Roaden University Center, Room 282**

**MINUTES**

**AGENDA ITEM 1 – CALL TO ORDER AND ROLL CALL**

The Academic and Student Affairs Committee met on October 7, 2021, in Roaden University Center, Room 282. Chair Rose called the meeting to order at 9:01 a.m.

Chair Rose asked Lee Wray, Secretary, to call the roll. The following members were present:

- Hannah Willis
- Dan Allcott
- Barry Wilmore
- Rhedona Rose

Tennessee Tech faculty, staff, and members of the public were also in attendance.

**AGENDA ITEM 2 – APPROVAL OF MINUTES**

Chair Rose asked if there were any recommendations or changes to the minutes. With no recommendations or changes, Trustee Wilmore moved to approve the minutes from June 24, 2021. Trustee Allcott seconded the motion. The motion carried unanimously.

**AGENDA ITEM 3 – ENROLLMENT REPORT**

Dr. Johnson provided an update on enrollment numbers and major initiatives in Enrollment Management and Career Placement.

**AGENDA ITEM 4 – PROVOST’S REPORT**

Provost Bruce provided updates from Academic Affairs, including classroom composition, graduate and undergraduate student trends, and student academic success metrics.

**AGENDA ITEM 5 – STUDENT AFFAIRS REPORT**

Dr. Polk-Johnson provided an update from Student Affairs and information gained during her limited time on campus.

**AGENDA ITEM 6 – REPORT ON UNIVERSITY ADVANCEMENT**

Dr. Braswell provided an update from University Advancement, including annual fundraising reports, future initiatives, and scholarship activity.

**AGENDA ITEM 7 – REPORT ON RESEARCH AND ECONOMIC DEVELOPMENT**

Dr. Taylor provided an update from Research and Economic Development, highlighting the 14% increase in external funding over fiscal year 2020, Tennessee Tech’s Research and Creative Inquiry Day, the Rural Reimagined Grand Challenge, Eagle Works, and the recent award from the University Economic Development Association.

**AGENDA ITEM 8 – OTHER BUSINESS**

There was no other business.

**AGENDA ITEM 11 – ADJOURNMENT**

There being no further business, the meeting adjourned at 10:46 a.m.

Approved,

\_\_\_\_\_  
Lee Wray, Secretary



## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Counseling Center Update on Mental Health Services

**Review**

**Action**

**No action required**

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**PRESENTER(S):** Dr. Christina Mick

**PURPOSE & KEY POINTS:** Dr. Christina Mick, Interim Director of the Counseling Center, will provide an update on mental health services on campus.

## Tennessee Tech University Counseling Center Fact Sheet

**Location:** 3<sup>rd</sup> Floor Roaden University Center, Room 307, 931-372-3331

**Mission Statement:** Promote healthy student development during the college experience. In our efforts to accomplish this, the Counseling Center offers a wide range of mental health, educational, and consultative services to students and other members of the campus community.

**Counseling Modalities:** The Counseling Center offers brief, short term, solution focused therapeutic interventions for students with a stepped care approach. The clinical staff have extensive training in suicide prevention and crisis services.

**Eligibility for Services:** Any student enrolled at TN Tech. Faculty and staff are eligible for consultative services.

**Cost of Services:** None

**Services Available:** Eligible students are allotted a flexible 12 individual sessions per academic year. This does not include triage (first time appointments), crisis appointments, wellness check-in appointments, workshops, or support groups. Students with more complex, severe or chronic psychological problems or issues related to substance abuse that would be best served through long-term therapy are referred to an outside provider in the community. Services available are:

- Academic Counseling
- Career Counseling
- Crisis Counseling
- Personal Counseling
- Premarital Counseling
- Couples Counseling
- Group Counseling
- Clinical case management (to begin January 2022)
- Prevention Services
- Workshops/Campus Outreach
- *#hopestrongeagles* Suicide Prevention Program-a comprehensive and public health approach to suicide prevention and mental well-being
- Consultation Services (to include referral resources)
- Eagle Eye After-hours Crisis Hotline that is available afterhours, holidays, and weekends
- Virtual counseling sessions through HIPPA compliant Zoom or in-person counseling sessions ( based on student choice)
- Eagle Wellness Portal Online appointment scheduling and secure messaging program
- WellTrack Self-Guided Interactive Therapy App-Is a suite of online tools and courses that uses aspects of Cognitive Behavioral Therapy to help students identify, understand and address mental health issues they are having.
- Mental Health Screeners – for depression, anxiety, eating disorders, PTSD, alcohol issues

- Graduate Intern Training Program- for TN Tech counseling students in training
- Community Referrals for students not wanting services at the Counseling Center.

**Medication Management:** A psychiatric nurse practitioner has been selected to offer psychiatric medication management and/or evaluations to begin December 2021. This is a service that will help bridge the wait times for students to get the necessary medications to help stabilize their moods and help them with academic success. The wait times for community evaluations can be extensive.

**Staff at the Counseling Center:** The clinicians at the Counseling Center are all independently licensed in the State of TN. The staff are:

Interim Director	Christina Mick, EdD, ACS, CPS, LSC, LPC/MHSP
Assistant Director/Clinical Services	Christina Mick, EdD, ACS, CPS, LSC, LPC/MHSP
Clinical Coordinator	vacant
Psychiatric Mental Health Nurse Practitioner (part-time)	Marianne Raynes, MSN, RN, APRN, PMHNP-BC
Counselor	Angie Rector, MA, LPC/MSHP
Counselor	Shonta Russell, MA, LPC/MHSP
Counselor	vacant
Administrative Assistant	Lisa Bowman
Graduate Assistant	Zach Spoerl

Tennessee Tech University Counseling Center Report Overview  
for academic year 2020/2021 and fall semester 2021  
as of 11-16-2021

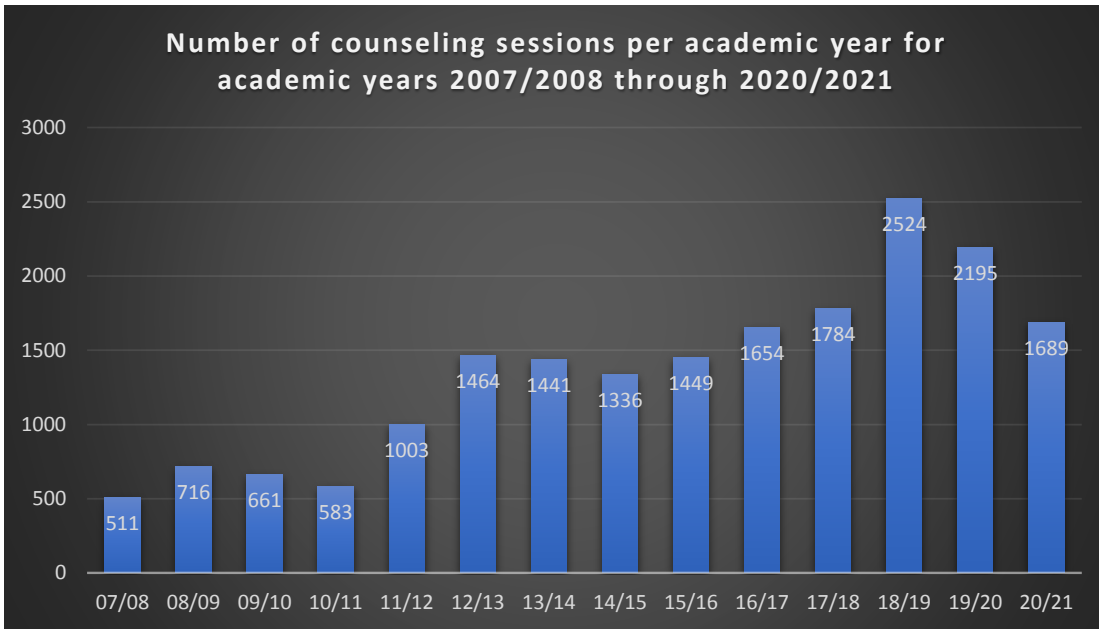
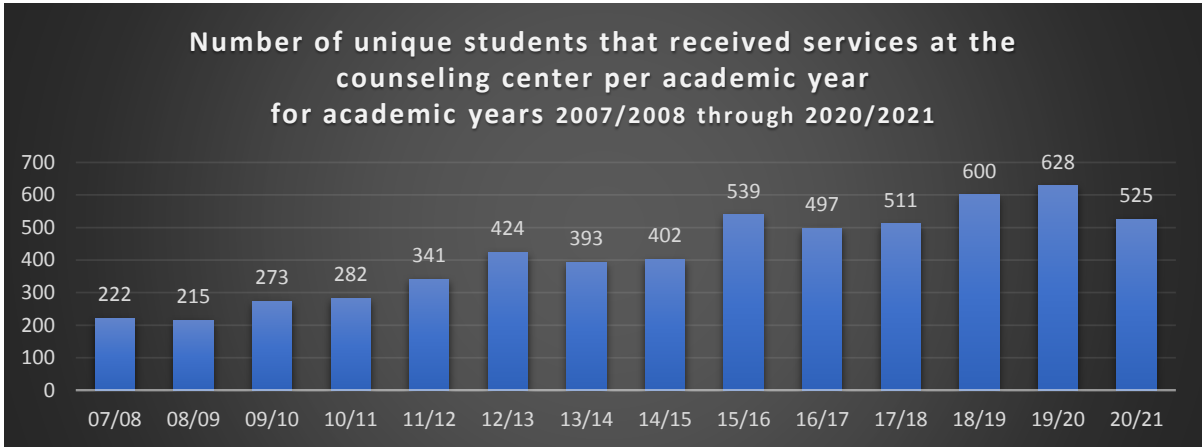
The counseling center provided services for the campus community during the COVID-19 pandemic (academic year 2020/2021) via remote or in-person. The counseling center has had a very active academic year-to-date (June 1, 2021-November 16, 2021). In order to demonstrate student reach and perspective of counseling center services, this report will include the number of students seen and appointments scheduled for the last 12 years to include last academic year and the current academic year.

academic year	# of unique students seen	# of counseling sessions
2007/2008	222	511
2008/2009	215	716
2009/2010	273	661
2010/2011	282	583
2011/2012	341	1003
2012/2013	424	1464
2013/2014	393	1441
2014/2015	402	1336
2015/2016	539	1449
2016/2017	497	1654
2017/2018	511	1759
2018/2019	600	2524
2019/2020	628	2195
*2020/2021	525	1689
Summer and Fall 2021	426	932

\*Counseling sessions and number of clients decreased slightly for the 2020/2021 academic year, in part, due to the pandemic.

From fall semester 2007 through spring semester 2020, there has been a consistent increase in the number of unique students that have been seen at the counseling center as well as an increase in number of sessions per year provided by the counseling center. This has also been a national trend. Summer and Fall 2021 semesters saw an increase in number of students seeking services. This is due to students returning to in-person learning and in-person counseling services. There also continues to be an increase in the number of students who are depressed/anxious and chronically mentally ill. The Counseling Center is projected to continue with this increase.

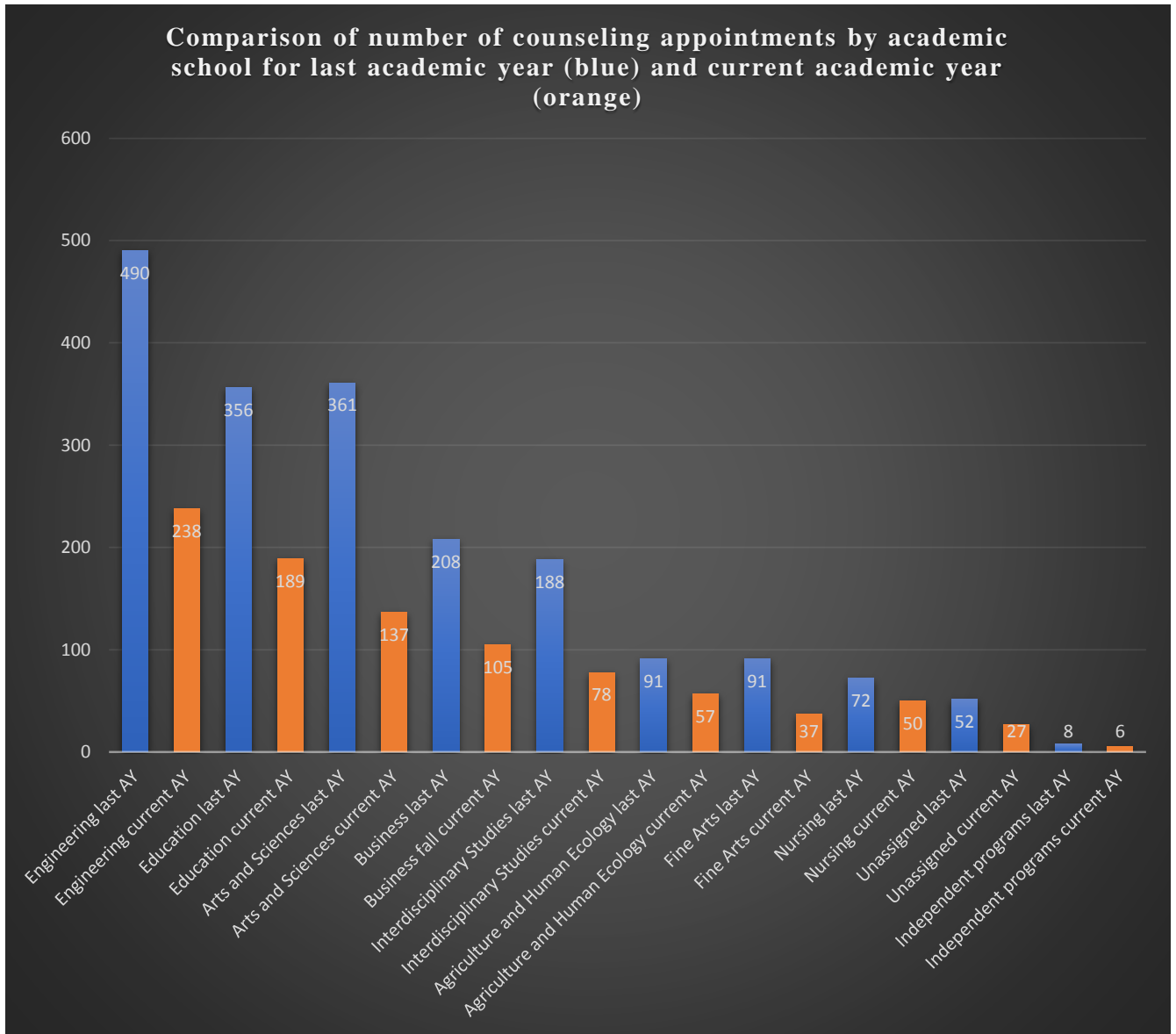
The chart below gives a visual representation of the growth the counseling center continues to experience. This is a trend that is occurring nationally.



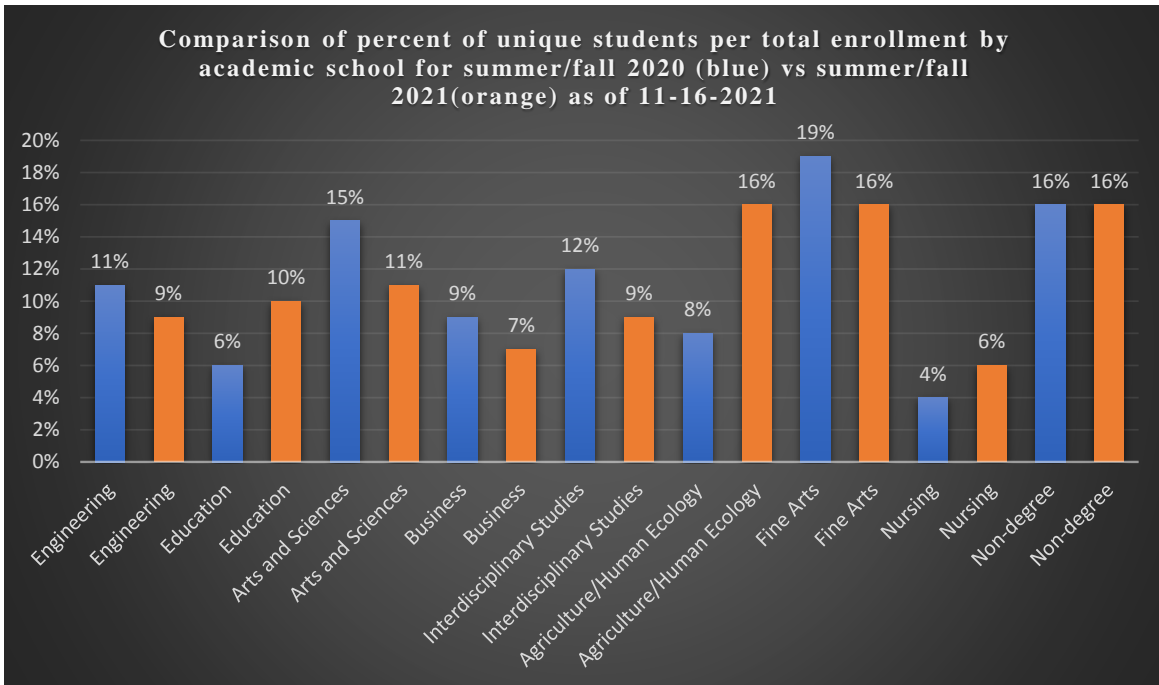
Counseling sessions saw a large increase during the last three academic years prior to COVID-19. The number of sessions and clients decreased slightly during the pandemic. For this academic year, June 1, 2021-November 16, 2021, the counseling center has provided 932 counseling sessions to clients. This is 54 more sessions than last June 1, 2020-November 16, 2020. The number of overall clients and number of total sessions are projected to be significantly increased this academic year.



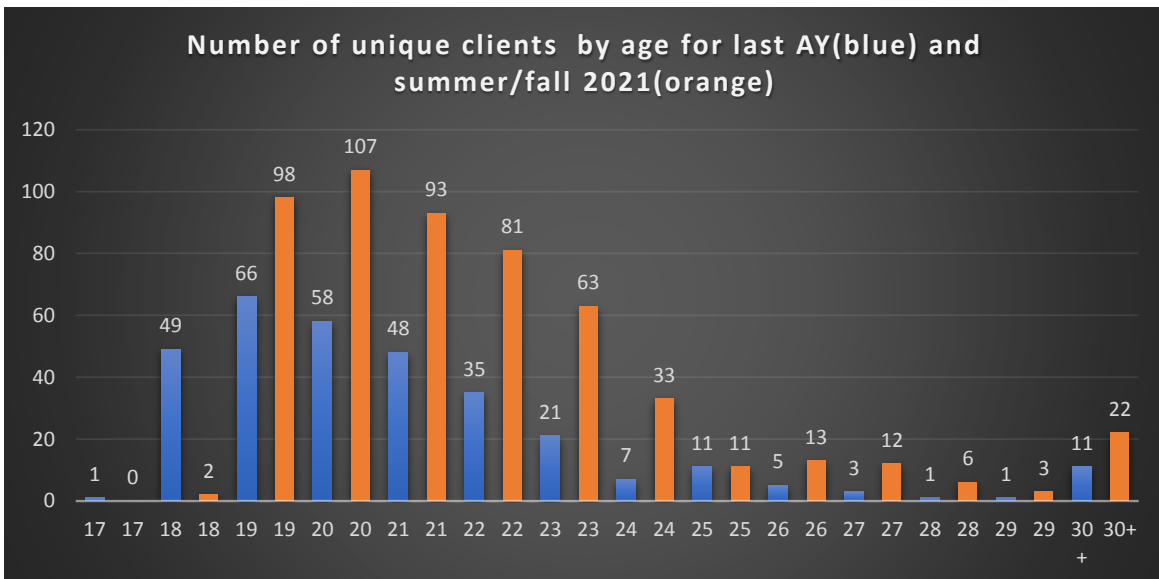
This chart represents a comparison of the number of counseling appointments by academic school for the last academic year (2020/2021 represented by blue) and the current academic year (June 1, 2021-November 16, 2021 represented by orange)



This chart provides a comparison of percent of unique students by total enrollment of academic school for last fall semester (summer/fall 2020 represented by blue) and the current fall semester (June 1, 2021- November 16, 2021 represented by orange) that have had counseling center appointments

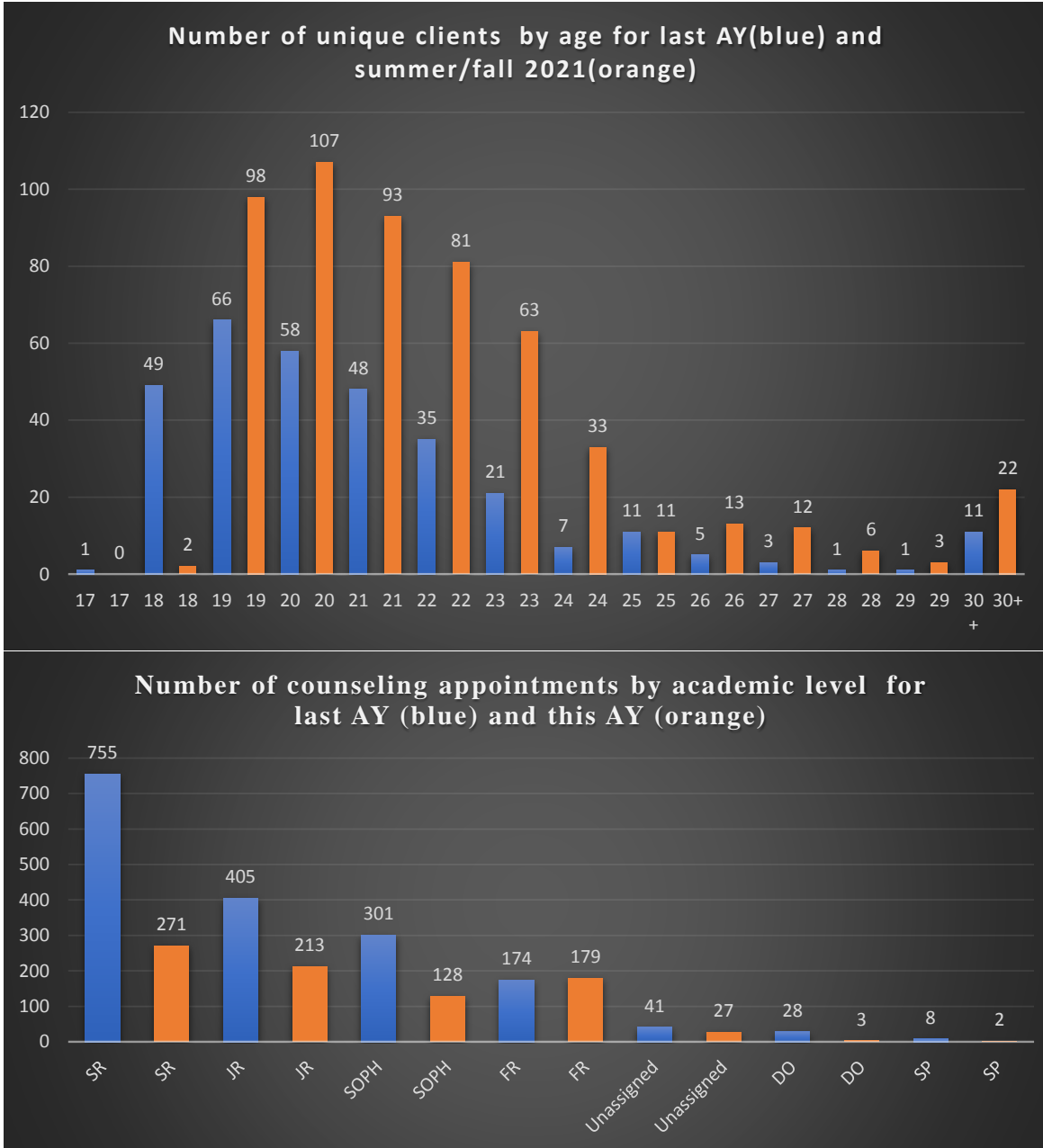


This chart provides a comparison of counseling center unique clients by age for last academic year (2020/2021 represented by blue) and the current academic year (June 1, 2021- November 16, 2021 represented by orange)



The average age of counseling center clients to continues to remain 19-20 years old.

This chart provides a comparison of counseling appointments for last academic year (2020/2021 represented by blue) and the current academic year (June 1, 2021- November 16, 2021 represented by orange)



Those students who represent the junior and senior academic levels of classification utilize counseling services more than the other academic levels. In the above chart, the UA stands for Unassigned. The unassigned in this chart refers to the faculty and staff members the counseling center met with this academic year.

The table below lists the top 6 reasons that client have visited the counseling center  
June 1, 2021- November 16, 2021

Anxiety/Depression	33 %
Coping/Life Management	15 %
Unassigned	14%
Continuity of Care	12 %
Other	4%
Relationship Issues	3%

Number of calls to the **Eagle Eye After-hours Hotline** for summer and fall 2021- 85

**Well Track** is a self-guided therapy tool provided to all students that utilizes cognitive behavioral therapy techniques to assist students with identifying, understanding, and cope with any mental health issues that they may be experiencing.

Number of **Well Track** users for June 1, 2021-November 16, 2021-367

Number of new sign-ups for **Well Track** for June 1, 2021-November 16, 2021-69

Number of logins to Well Track for June 1, 2021-November 16, 2021-611

Number of **Mental Health Screeners** taken by students for June 1, 2021-Noember 16, 2021-409

For the academic year 2020/2021, only .5% of clients seeking services at the Counseling Center were primarily for substance abuse. To date, no clients that have received services at the counseling center have reported substance abuse as the primary reason for seeking services.

The number of clients referred to and admitted to the **hospital or the Crisis Stabilization Unit** (Volunteer Behavioral Health Center) for severe suicide ideation for June 1, 2021-November 16, 2021-3.

The Counseling Center is aware of 1 suicide attempt and 1 student who died by suicide this semester.

### **Summary:**

The Tennessee Tech University Counseling Center had three counselors retire during the period June 1, 2021-September 2, 2021. Two of the three current vacancies are in process of being filled. There has been an increase in students seeking counseling center services this semester. There was a slight decrease of students seeking services during the pandemic. National trends indicate that students seeking mental health counseling will continue to increase. Tennessee Tech Counseling Center has instituted the following changes in order to accommodate the current and anticipated increase:

1. Limit of 12 counseling sessions per student per academic year. Students will be referred to community providers if their counseling needs exceeds the 12 sessions limit. Limits were enforced due to the staffing needs. The recent Audit reported the following regarding staffing problems at the TTU Counseling Center.
2. The counseling center will follow, as much as our current staffing pattern will allow, the International Association of Counseling Services (IACS) standards for university and college counseling centers that was used during the audit process. IACS minimum staff

ratios is one full time clinical counselor for every 1,000 to 1,500 students. Please note that according to IACs standards, the counseling center director does not count as one of the full time counselors needed to meet minimum IACS standards. The Counseling Center has the following ratios:

Fall Semester	# of full-time counselors	Student Enrollment	Counselor to Student Ratio	Number of additional counselors needed to meet minimum IACS Standards
2019	5	10,140	1:2028	2
2020	5	10,177	1:2035	2
2021	2	9,840	1:4920	5

3. The counseling center will utilize a solution-focused, brief treatment model and stepped-care approach.
4. The counseling center will utilize a clinical coordinator to provide referral to community providers for who have more chronic, long term, or specialized treatment care needs. This includes students who have chronic suicidal ideation or suicide attempts. The clinical coordinator will provide case management, and follow-up and tracking, for those students being followed by the Behavioral Intervention Team and the counseling center. This will provide support for those students who need support other than regular counseling appointments as well as provide continuity of care.
5. The counseling center will utilize a Psychiatric Mental Health Nurse Practitioner to provide medication management services to students.
6. The counseling center will provide more psycho-education groups to assist the student in developing coping and resiliency skills. These groups would teach coping skills to deal with anxiety, depression, stress and life management.
7. The counseling center will continue to limit outreach programs and workshops due to staffing numbers and the increase number of students seeking services.
8. The counseling center will utilize Well Track, mental health screeners, and the Eagle Eye After-hours hotline to expand services to students who need services after hours, or prefer a self-guided approach.



## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Update of Research Activities

**Review**

**Action**

**No action required**

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**PRESENTER(S):** Dr. Jennifer Taylor

**PURPOSE & KEY POINTS:** Dr. Taylor will provide an update on research activities



## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Faculty Workload Policy 208

**Review**

**Action**

**No action required**

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**PRESENTERS:** Dr. Lori Bruce

**PURPOSE & KEY POINTS:** This is a new policy that defines University requirements and expectations regarding faculty workload, thereby helping to ensure equity in workload assignment and overload pay eligibility across campus. Academic units will follow this policy in developing more specific guidelines for their Colleges/School (required), and Departments/Schools/Centers (recommended).

**Tennessee Technological University  
Policy No. 208**

5.2



Effective Date: January 1, 2022



**Policy No:** 208

**Policy Name:** Faculty Workload

### **I. Purpose**

This policy defines University requirements and expectations regarding faculty workload, thereby helping to ensure equity in workload assignment and overload pay eligibility across campus. Academic units will follow this policy in developing more specific guidelines for their Colleges/School (required), and Departments/Schools/Centers (recommended).

### **II. Review**

This policy will be reviewed one year after its initial implementation and then every four years thereafter, or whenever circumstances require review. The review shall be conducted by the Provost in consultation with the Deans of the Colleges, with final approval by the Administrative Council, University Assembly, and the Board of Trustees.

### **III. Scope**

This policy applies to all full-time faculty, including Instructors, Lecturers, tenure-track, and tenured faculty, employed at Tennessee Tech.

### **IV. Definitions**

- A. Credit Hour: Tennessee Technological University is organized on a semester basis. When the term “hour” or “credit” is used, it refers to a semester hour credit. One semester hour of credit requires one hour of classroom or direct faculty instruction and a minimum of two hours out of class work each week for approximately fifteen weeks. Two or more hours of laboratory or studio work are required per hour of credit in these courses. An equivalent amount of work is required for practicums and other academic activities that award credit. Summer, intersession or other alternate course formats require the equivalent amount of work per credit hour. Laboratory hours per credit are determined by the department or college. Semester credit hours earned in courses such as internships, research, theses, dissertations, study abroad, etc. are based on outcome expectations established by the academic program.
- B. A typical three (3) credit hour undergraduate lecture course would consist of approximately 3 contact hours plus 4.5 hours of out-of-class time for class

preparation and related activities for a total of 7.5 hours per week. Therefore, a 15-credit hour course load equates to 37.5 clock hours per week (full-time work week under Tennessee law).

## V. Policy/Procedure

- A. Faculty workload is comprised of Instruction, Scholarly/Creative Activity, Service, and Advising. In some cases, Administrative or “Other” duties may be assigned as well. The percentage of each in a faculty member’s load is determined in advance through the use of the University’s Agreement on Responsibilities form.
- B. The components of this workload for Instruction, Scholarly/Creative activity, Service, Advising, Administrative, and Other areas are based on credit-hour equivalent time and effort. A full-time faculty workload is defined as 15 credit hours per semester. For example, faculty holding an Instructor or Lecturer position would normally be expected to teach the equivalent of five 3 credit hour courses per semester since there is normally no expectation of Scholarly/Creative activity or service for these types of positions. However, in departments where faculty holding one of these types of positions are expected to engage in departmental, college, or university level service, their teaching load may be reduced by 3 credit hours per semester as determined by the chair and dean. For faculty holding a tenure-track or tenured position, because they are expected to engage in both research/scholarly activities and service, the normal teaching load would be the equivalent of four 3 credit hour courses per semester. Further reductions in the standard teaching load expected of tenure-track and tenured faculty may be justified, with approval from the chair and dean, for teaching large sections, teaching at the graduate level, engaging more heavily in scholarly/creative activities, and undertaking time-intensive service.
- C. Colleges / Schools are required to develop guidelines specific to the disciplines that they represent as to what constitutes full-time instructional load equivalents in the areas of Instruction, Scholarly/Creative activity, Service, Advising, Administrative, and Other.
- D. The College/School guidelines are to be based on the demonstrated workload expectations in the respective professional fields nationally. The College/School guidelines must be reviewed and approved by the Provost for adherence to this policy, representative of their professional fields, and equity across campus.
- E. Guidelines at the Department/School/Center level are optional but recommended. These must adhere to the College/School guidelines and to this University Policy.

F. Overload Pay

1. Faculty members' salaries are based on the expectation that all full-time faculty members satisfy the workload equivalent of 15 credit hours per semester during the academic year.
2. Faculty are classified as exempt employees and are not eligible for overtime pay under the Federal and State overtime pay guidelines. However, if the assigned workload of a faculty member is substantially greater than what is considered a full-time workload, then the faculty member is eligible for overload pay compensation. Note: Faculty members receiving Federal Grants may be prohibited from receiving overload pay if they receive release time from the grant.
3. "Substantially greater" is to be defined in the workload guidelines developed by each College/School. The College/School guidelines will be checked for consistency with those across the University at the time of their initial approval by the Provost, and when subsequent changes are proposed.
4. Under T.C.A. § 49-5-10 "Teachers – Moonlighting," faculty may not receive more than 6 credit hours of overload pay in either semester during the academic year, with a 10.67 credit hours maximum for the entire academic year.

**VI. Interpretation**

The Provost or designee has the final authority to interpret the terms of this policy.

**VII. Citation of Authority**

TTU Policy 644 Compensation; Section IV.F.2  
T.C.A. § 49-5-10 Teachers – Moonlighting

**VIII. Approved by:**

Administrative Council:

September 29, 2021

University Assembly:

November 17, 2021

Board of Trustees:



## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Strategic Plan for Online Education

**Review**

**Action**

**No action required**

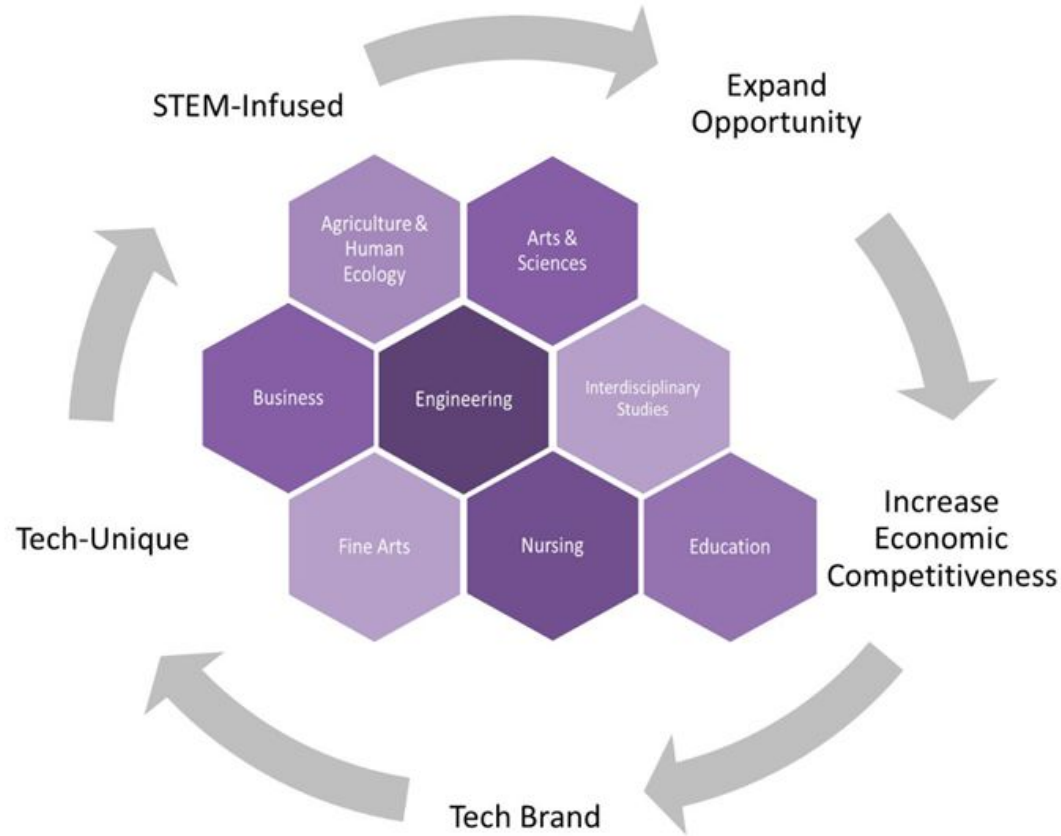
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**PRESENTERS:** Dr. Lori Bruce

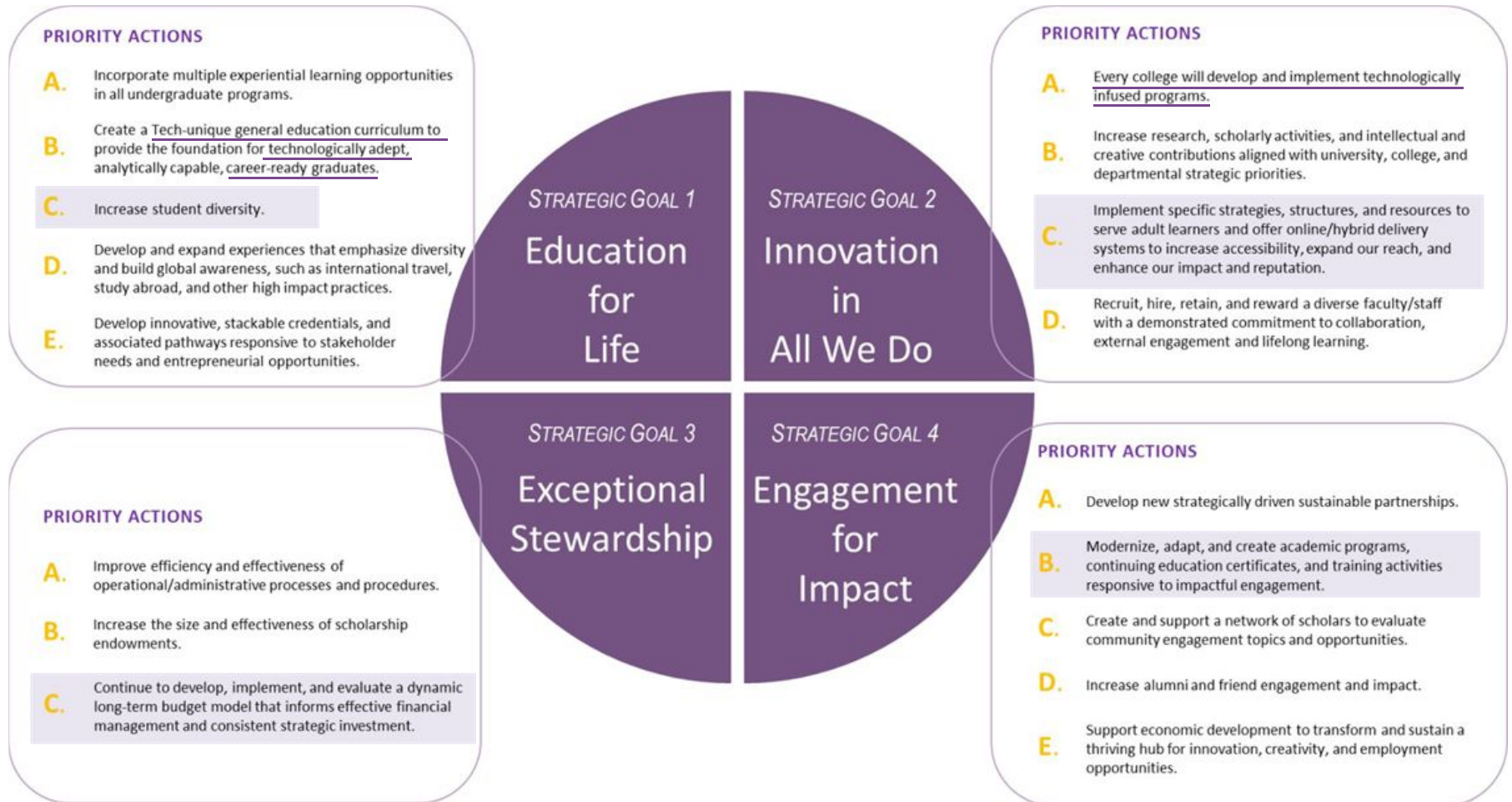
**PURPOSE & KEY POINTS:** Dr. Bruce will discuss the Academic Affairs Strategic Plan for Online Education.

# Academic Program Development

6.2



Academic & Student Affairs Committee: Online Education Strategic Plan - *Linkage to Tech Tomorrow Strategic Plan*



# Online Education Strategic Plan

*Innovation  
in All We Do*

*Engagement  
for Impact*

*Education  
for Life*

*Exceptional  
Stewardship*

<p>Modernize, Create, and Adapt Academic Programs</p>	<p>Serve Adult Learners &amp; Offer Online/Hybrid Delivery</p>	<p>Increase Student Diversity</p>	<p>Budget Model for Effective Financial Management &amp; Consistent Strategic Investment</p>
<p>Dual Enrollment Courses</p> <p>Online Graduate Options</p> <p>Accelerated Bachelor's Options – Degree Completers &amp; Second Degree Seekers</p>	<p>Dual Enrollment Expansion</p> <p>Career Changers</p> <p>Working Professionals</p>	<p>Geographic</p> <p>Age</p> <p>Race &amp; Ethnicity</p>	<p>Program Design</p> <p>Course Design, Development, &amp; Support</p> <p>Technology Management</p> <p>Student Services</p>



## Agenda Item Summary

7.1

**Date:** December 2, 2021

**Agenda Item:** Online and Distance Education Policy 223

Review

Action

No action required

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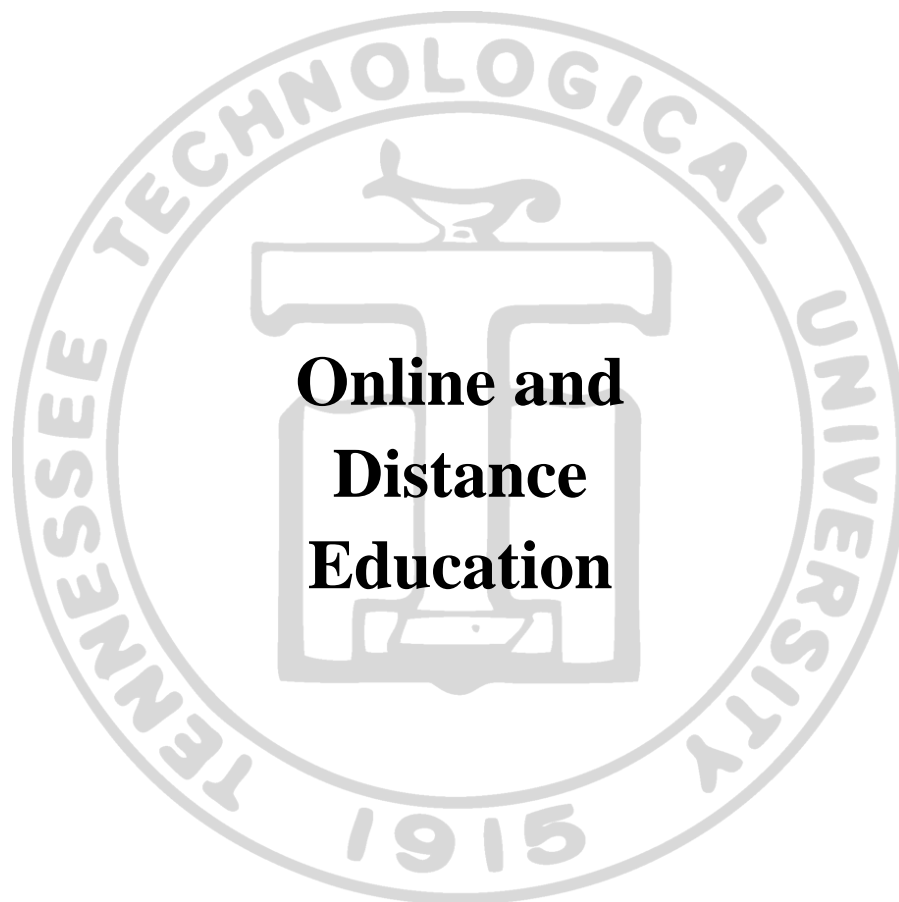
**PRESENTERS:** Dr. Lori Bruce

**PURPOSE & KEY POINTS:** Revisions to this policy were made to align with our current institutional practices and organizational structure coming out of our COVID remote learning situation and more importantly, to align with best practices in online education. This is a necessary policy for our SACSCOC Reaffirmation and to stay in compliance with our NC-SARA affiliation.



**Tennessee Technological University  
Policy No. 223**

7.2



Effective Date: July 1, 2017

**Policy No.:** 223

**Policy Name:** Online and Distance Education

**Revised Date:** January 1, 2022

### **I. Purpose**

The mission of online and distance education at Tennessee Tech is to support the vision and mission of the university by utilizing technology, instructional technology, and remote locations to provide accessible and effective learning opportunities for those students who choose to pursue their education through online and distance education. This policy applies to undergraduate and graduate online and distance education courses and programs originating from Tennessee Tech, including the online components of any web-enhanced or hybrid modality when used as an approach to deliver online and distance education courses or programs. Tennessee Tech considers online and distance education subject to the same standards and policies for faculty and students as its conventional, on-campus courses and/or programs.

### **II. Review**

This policy will be reviewed every four years or whenever circumstances require review, whichever is earlier, by the Associate Provost of Online Education and Faculty Excellence, with recommendations for revision presented to the Academic Council, University Assembly, and the Board of Trustees.

### **III. Operational Definitions**

**Online Education** is a formal educational process in which instructional technology is utilized to deliver a large percentage of course components through a learning management system. Online education has no on-campus requirements (exclusive of online program specific on-campus requirements) and instruction and learning may be synchronous or asynchronous. Online education courses are designated in the published course catalog offerings.

**Synchronous Instruction and Learning** is when learners meet at the same time with the teacher. The learning environment is a scheduled space and time with simultaneous interaction of teacher and learner. Primary communication between teacher and learner is in real time.

**Asynchronous Instruction and Learning** is when learners do not meet at the same time with the teacher. The learning environment is flexible, not scheduled, with delayed interaction between teacher and learner. Faculty guide and frame flexible learning activities with students often self-paced in completion of activities. Primary communication between teacher and learner is not in real time.

**Distance Education** is a formal educational process in which the majority of the instruction and interaction (between students and faculty and among students) occurs when students and faculty are not in the same physical location or place. Instruction and learning can occur through remote instruction, satellite campuses, dual enrollment, and/or at program designated distance education sites. A distance education course may use the

internet; one-way and two-way transmissions through open broadcast, closed circuit, cable, microwave, broadband lines, fiber optics, satellite, or wireless communication devices; audio conferencing; or other digital media if used as part of the distance education course or program. Instruction and learning may be synchronous or asynchronous.

#### **IV. Policy**

##### **A. Curriculum and Instruction**

- 1.** The faculty assumes primary responsibility for the quality and rigor of online and distance education courses with online and distance education courses approved following Tennessee Tech policies related to course approval and modifications.
- 2.** Pursuant to TTU Policy 203 (Faculty Roles and Responsibilities), the faculty play a vital role in academic matters with each department, major, or school to assign faculty who oversee curriculum development and periodic course quality review across all learning environments, including online and distance education. Therefore, online and distance education is subject to the established purposes and procedures of the University Curriculum and Graduate Studies Executive Committees, respectively.
- 3.** The instructional technology used must be commensurate with the nature and objectives of the programs and courses. Faculty will clearly communicate expectations concerning the use of technology to support students and direct them to resources to support student success with use of technology in the course.
  - a.** The Center for Innovation in Teaching and Learning is available to make recommendations for the improvement of teaching with instructional technology across all learning environments, including online and distance education.
  - b.** Students will be required to follow TTU Policy 801 (Information Technology Acceptable Use) related to the use of technology and any course or program policies on use of instructional technology as outlined by course or program faculty.
  - c.** Because any course may need to rapidly transition to online and distance education (such as a pandemic or other natural disaster), all courses should, minimally, be web-enhanced with a learning management system (LMS) course shell enabled to provide students with an accessible syllabus, course calendar of activities, and access to gradebook. Faculty who have rationale for exceptions to this requirement should seek approval from the department chair/school director.

4. Online and distance education course material must adhere to copyright and fair use laws and TTU Policy 732 (Intellectual Property), when applicable.
5. Pursuant to TTU Policy 222 (Credit Hours), TTU Policy 260 (Requirements for a Baccalaureate Degree), and TTU Policy 271 (General Graduate Degree Requirements), program length will be appropriate for each of the institution's educational programs offered through online and distance education and will provide an equivalent learning experience and learning outcomes.
6. Online and distance education courses should be developed in a manner that complements the institution's mission and vision.
7. When entering into consortial arrangements or contractual agreements for the delivery of courses/programs or services offered via online and distance education, Tennessee Tech will exercise appropriate responsibility for the effectiveness and quality of the courses/programs offered.
8. Tennessee Tech follows TTU Policy 221 (Substantive Change), TTU Policy 224 (Academic Actions Notification), TTU Policy 225 (New Academic Programs), and TTU Policy 226 (Academic Programs Modifications) as they relate to online and distance education programs.

1. **B. Faculty**

Tennessee Tech policies that apply to faculty also apply to faculty who teach courses via online and distance education. TTU Policy 203 (Faculty Roles and Responsibilities) applies to faculty who teach courses via online and distance education, along with the procedures/processes in place to support Policy 203, regardless of course modality:

- a. Maintenance of faculty qualifications and procedures for Faculty Qualification Certification (FQC) will be the same regardless of course delivery modality.
  - b. Pursuant to TTU Policy 205 (Faculty Tenure), TTU Policy 206 (Faculty Promotion), and TTU Policy 207 (Tenured Faculty), faculty teaching through online and distance education will be comparably hired, promoted, and evaluated regardless of course delivery modality.
- 2.

Tennessee Tech recognizes the need to provide faculty with additional training and technical support to effectively deliver online and distance education. Tennessee Tech will provide faculty with the necessary professional development opportunities and appropriate equipment, software, communication, and technical support to facilitate effective course delivery and to augment both faculty and student success. Such support is provided by

the Center for Advancing Faculty Excellence (CAFÉ), the Center for Innovation in Teaching and Learning (CITL), and Information Technology Services (ITS) and, at minimum, will include training and workshop sessions on:

- a. Effective use of the Learning Management System (LMS);
- b. Accessibility, Copyright, Intellectual Property, and Fair Use Issues unique to online and distance education;
- c. Supported Instructional Technology;
- d. Best practices in online and distance education (course development and evaluation, including principles of Universal Design).

3. Any faculty or staff member who teaches through online and distance education is subject to compliance with Tennessee Tech policies related to confidentiality, data security, Personally Identifiable Information (PII), and any other policy and procedure related to the security of personal and student information, including Policy 801 (Information Technology Acceptable Use), and Policy 1206 (Confidentiality of Student Records and FERPA Compliance) as it does for any other course modality.

**C. Library and Learning Resources**

Tennessee Tech’s Volpe Library will provide resources and services to support the online and distance education degrees, disciplines, and efforts of the university, including, but not limited to:

- 1. Timely access to the Tennessee Tech Volpe Library’s resources and services in order to meet the informational needs of online and distance education students and faculty.
  - 2.
  - 3. Online access to research databases, e-books, full-text journal articles, document delivery, and other online materials, required for student success in a course.
  - 4. Online services provided by Tennessee Tech Volpe Library interlibrary loan, research help, tutorials, and other services.
1. Comparable access to library staff support and services as those provided to students who are enrolled in conventional, on-campus, courses and/or programs.

**D. Students**

Students participating in online and distance education courses will have adequate access to the following student services online:

- a. Admissions, registration, health services, counseling services, financial aid, business services, library services, including tutoring, career services, advisement, and disability accommodations.
- b. Bookstore, library resources, course catalog, student handbook, and university calendar through the Tennessee Tech website.
- c. Information technology services and learning management system support after business hours is available through Information Technology Services (ITS) and CITL services, respectively.
- d. Tennessee Tech will provide appropriately licensed software and the training in use of this software.

2. Online and distance education students will receive a Tennessee Tech secure account login and password which provides access to a TTU secure single sign-on (SSO) through Tech Express. Tech Express allows secure navigation for students across Eagle Online, the learning management system, and other required systems, including proctored examinations, and other student verification technologies.

3. Online and distance education students may use the same complaint process and grade appeals process as would students taking conventional, on-campus, courses, as outlined in TTU Policy 218 (Grade Appeals) and TTU Policy 301 (TTU Student Complaint).

4.

Online and distance education students are subject to TTU Policy 217 (Academic Misconduct).

1.

**E. Institutional Effectiveness**

Tennessee Tech will evaluate its online and distance education teaching using accepted assessment and evaluation tools adopted by the institution and coordinated through the Office of Institutional Assessment, Research, and Effectiveness (IARE). Tennessee Tech shall ensure online and distance education students have opportunity to complete course evaluations each semester through University-approved Student Evaluation of Teaching questionnaire. Fully online and distance education programs are subject to THEC program review unless the program has other program review relative to external accreditation requirements.

Tennessee Tech’s CITL, in coherence and coordination with departmental, college, and programmatic curricular goals, may assist faculty, departments, and colleges with course development, revisions, and periodic course quality reviews, regardless of course modality.

2. Tennessee Tech will regularly assess and evaluate library services and online student support services to ensure that online and distance education students have services that are comparable to those courses and programs delivered in a conventional, on-campus, modality.

3. **F. Infrastructure and Finances**

1. Tennessee Tech provides appropriate equipment, software, communications, and network access, as well as instructional technology training and faculty professional development opportunities, for faculty to effectively support faculty and student engagement in courses and programs offered through online and distance education.

2. Tennessee Tech, in making online and distance education courses and programs a part of its mission, provides sufficient fiscal support to ensure adequate infrastructure in support of course development and delivery of courses and programs offered through online and distance education. Such fiscal support is intended to enhance infrastructure for faculty and student services required to deliver successful and competitive online and distance education courses and program delivery.

3. Tennessee Tech provides sufficient marketing support for online and distance education programs as it provides for all other programs delivered in a conventional, on-campus modality. Marketing of programs offering online and distance education courses will comply with the [Communications and Marketing Publication Guide](#), TTU Policy 1103 (University Social Media Policy), TTU Policy 1110 (University Publications), TTU Policy 801 (Information Technology Acceptable Use Policy), and TTU Policy 1111 (Trademarks and Licensing), where applicable, when advertising, recruiting, or sharing admissions information.

## **V. Interpretation**

The Provost or his/her designee has the final authority to interpret the terms of this policy.

## **VI. Citation of Authority for Policy**

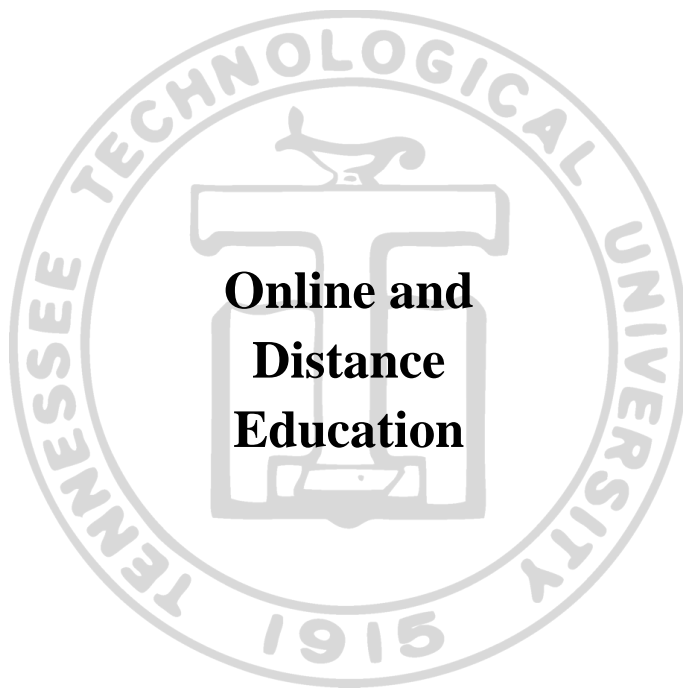
T.C.A. § 49-8-203(2016)

**Approved by:**

Academic Council: November 9, 2016; March 10, 2021; October 6, 2021  
University Assembly: November 16, 2016; November 17, 2021  
Board of Trustees: June 15, 2017



**Tennessee Technological University  
Policy No. 223**



Effective Date: July 1, 2017

Policy No.: 223

Policy Name: Online and Distance Education

Revised Date: January 1, 2022

Commented [RB1]: Added per Policy Tech Requirements

7.3

### I. Purpose

The mission of online and distance education at Tennessee Tech is to support the vision and mission of the university by utilizing technology, instructional technology, and remote locations to provide accessible and effective learning opportunities for those students who choose to pursue their education through online and distance education. -This policy applies to undergraduate and graduate online and distance education courses and programs originating from Tennessee Tech, including the online components of any web-enhanced or hybrid modality when used as an approach to deliver online and distance education courses or programs.

Tennessee Tech considers online and distance education subject to the same standards and policies for faculty and students as its conventional, on-campus courses and/or programs.

### II. Review

This policy will be reviewed every four years or whenever circumstances require review, whichever is earlier, by the Associate Provost of Online Education and Faculty Excellence, with recommendations for revision presented to the Academic Council, University Assembly, and the Board of Trustees.

### III. Operational Definitions

**Online Education** is a formal educational process in which instructional technology is utilized to deliver a large percentage of course components through a learning management system. Online education has instruction and learning, no on-campus requirements (exclusive of online program specific on-campus requirements) and instruction and learning may be synchronous or asynchronous. Online education courses are designated in the published course catalog offerings.

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Commented [RB2]: Clarifying language added following email from Senator after the conclusion of the Faculty Senate meeting on 9/27/2021. Also have incorporated the University Counsel (Attorney) review and comments on 9/29/2021.

**Synchronous Instruction and Learning** is when learners meet at the same time with the teacher. The learning environment is a scheduled space and time with simultaneous interaction of teacher and learner. Primary communication between teacher and learner is in real time.

**Asynchronous Instruction and Learning** is when learners do not meet at the same time with the teacher. The learning environment is flexible, not scheduled, with delayed interaction between teacher and learner. Faculty guide and frame flexible learning activities with students often self-paced in completion of activities. Primary communication between teacher and learner is not in real time.

~~At Tennessee Tech, **Online Education** is designated in the Enterprise Resources Planning (ERP) System as:~~

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- A. ~~“WEB” ERP designation referred to as “Tech Direct” with 80% or more of course content delivered through online education.~~

1. ~~WEB ONLINE~~—100% of course delivery is asynchronous instruction and learning with no on-campus course requirements (exclusive of online program specific on-campus requirements).
  2. ~~LIVE STREAM~~—a online education course that engages students through synchronous instruction and learning with no on-campus course requirements (exclusive of online program specific on-campus requirements).
- B. ~~“HYB” ERP designation referred to as “Tech Flex” and includes course content delivered in a hybrid format through a combination of both on-campus and online education. The online components average 40-60% of the total course delivery but no more than 80% of course content is delivered online. Instruction and learning can be asynchronous or synchronous.~~

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**Commented [RB3]:** Suggested section deletion per Faculty Senate Review: After discussion with VP of Enrollment and Registrar, this language will be reflected in the course catalog. Therefore, reference statement added above.

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**Distance Education** is a formal educational process in which the majority of the instruction and interaction (between students and faculty and among students) occurs when students and faculty are not in the same physical location or place. Instruction and learning can occur through remote instruction, satellite campuses, dual enrollment, and/or at program designated distance education sites. A distance education course may use the internet; one-way and two-way transmissions through open broadcast, closed circuit, cable, microwave, broadband lines, fiber optics, satellite, or wireless communication devices; audio conferencing; or other digital media if used as part of the distance education course or program. Instruction and learning may be synchronous or asynchronous.

**IV. Policy/Procedures**

**A. Curriculum and Instruction**

1. The faculty assumes primary responsibility for the quality and rigor of online and distance education ~~courses with online and distance education courses approved following Tennessee Tech policies related to course approval and modifications~~.
- a. ~~Online and distance education courses, like other courses, must be approved following Tennessee Tech policies related to course approval and modifications.~~
- b. ~~Colleges, departments, and/or schools must put in place a systematic curricular review process to evaluate currency, relevance, and appropriate level (undergraduate versus graduate, for example) of course content delivered through online and distance education. In addition, curricular review processes must reflect pedagogically-informed approaches to decisions on whether or not courses or programs can be effectively delivered via online and distance education. The Center for Innovation and Teaching and Learning~~

**Commented [RB4]:** Suggested policy reference needed per Faculty Senate Review: This statement is SACSCOC language (and language included in the original policy) under the guidelines and will need to stay.

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**Commented [RB5]:** Suggested deletion per Faculty Senate Review: This is original policy language but has been collapsed into first statement under IV.A.1.

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(CITL) will assist faculty with non-course content related quality reviews of courses and can provide guidance on course and curricular review processes for courses and programs who seek to transition to online and distance education delivery.

**Commented [RB6]:** Suggested deletion per Faculty Senate Review: Edited section (now IV.A.2) to refer to existing curricular and course quality review processes. Quality Review relative to institutional compliance and infrastructure support to align with NC-SARA guidelines and membership is addressed now under institutional effectiveness.

2. Pursuant to TTU Policy 203 (Faculty Roles and Responsibilities), the faculty play a vital role in academic matters with each department, major, or school to assign faculty who oversee curriculum development and periodic course quality review across all learning environments, including online and distance education. Therefore, online and distance education is subject to the established purposes and procedures of the University Curriculum and Graduate Studies Executive Committees, respectively.

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2.3.The instructional technology used must be commensurate with the nature and objectives of the programs and courses. Faculty will clearly communicate expectations concerning the use of technology to support students and direct them to resources to support student success with use of technology in the course.

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a. The Center for Innovation in Teaching and Learning ~~will~~ is available to make recommendations for the improvement of teaching with instructional technology across all learning environments, including online and distance education.

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**Commented [RB7]:** Suggested revision per Faculty Senate Review

b. Students ~~are will be~~ required to follow TTU Policy 801 (Information Technology Acceptable Use) related to the use of technology and any course or program policies on use of instructional technology as outlined by course or program faculty.

c. Because any course may need to rapidly transition to online and distance education (such as a pandemic or other natural disaster), ~~Because any course has potential to move to an online and distance education modality during pandemic and natural disaster events,~~ all courses should, minimally, be web-enhanced (~~referred to as Tech-Enhanced~~) with a learning management system (LMS) course shell enabled to provide students with an accessible syllabus, course calendar of activities, and access to gradebook. Faculty who have rationale for exceptions to this requirement should seek approval from the department chair/school director.

**Commented [RB8]:** Revised following Faculty Senate meeting on 9/27/2021

~~3.~~ 4. Online and distance education course material must adhere to copyright and fair use laws and TTU Policy 732 (Intellectual Property), when applicable.

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~~4.~~ 5. Pursuant to TTU Policy 222 (Credit Hours), TTU Policy 260 (Requirements for a Baccalaureate Degree), and TTU Policy 271 (General Graduate Degree Requirements), ~~p~~Program length will be appropriate for each of the institution's educational programs, ~~including those~~ offered through online and distance education and will provide an equivalent learning experience and learning outcomes.

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~~a.~~ Online and distance education courses will follow TTU Policy 222 (Credit Hours). The online or distance education course must offer an equivalent learning experience and learning outcomes as with all other Tennessee Tech course delivery modalities.

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Commented [RB9]: Suggested deletion per Faculty Senate Review: Included key aspect of purpose in the IV.A.5 statement revision.

~~b.~~ Courses and programs delivered via online and distance education carry the same curriculum prerequisites as with all other Tennessee Tech course delivery modalities.

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Commented [RB10]: Suggested deletion per Faculty Senate Review: Included key aspect of purpose in the IV.A.5 statement revision.

~~c.~~ Credit hour requirements for degree completion for online and distance education programs are the same as they are for all other Tennessee Tech degree programs.

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Commented [RB11]: Suggested deletion per Senate Review: Included key aspect of purpose in the IV.A.5 statement revision. Added policy references in addition to 222.

~~5.~~ 6. Online and distance education courses should be developed in a manner that complements the institution's mission and vision.

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~~6.~~ 7. When entering into consortial arrangements or contractual agreements for the delivery of courses/programs or services offered via online and distance education, Tennessee Tech will establish processes exercise appropriate responsibility for the to ensure the effectiveness and quality of the courses/programs offered, by all of the participants.

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Commented [RB12]: Clarifying revisions following Faculty Senate Meeting on 9/27/2021

~~7.~~ 8. Tennessee Tech follows TTU Policy 221 (Substantive Change), TTU Policy 224 (Academic Actions Notification), TTU Policy 225 (New Academic Programs), and TTU Policy 226 (Academic Programs Modifications) as they relate to online and distance education programs.

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**B. Faculty**

1. Tennessee Tech policies that apply to faculty also apply to faculty who teach teaching courses via online and distance education. TTU Policy 203 (Faculty Roles and Responsibilities) applies to faculty who teaching courses via online and distance education, along with these procedures/processes in

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place to support Policy 203, ~~regardless of course modality; also apply, including, but not limited to:~~

~~a. An annual completion of an Agreement on Responsibilities will be submitted and agreed upon by the faculty member and the Department Chair or School Director.~~

~~b. a. Maintenance of faculty qualifications and procedures for Faculty Qualification Certification (FQC) will be the same regardless of course delivery modality.~~

~~c. b. Pursuant to TTU Policy 205 (Faculty Tenure), TTU Policy 206 (Faculty Promotion), and TTU Policy 207 (Tenured Faculty), faculty teaching through online and distance education will be comparably hired, promoted, and evaluated in the same manner as for all other faculty regardless of course delivery modality.~~

2. Tennessee Tech recognizes the need to provide faculty with additional training and technical support to effectively deliver online and distance education. Tennessee Tech will provide faculty with the necessary professional development opportunities and appropriate equipment, software, communication, and technical support to facilitate effective course delivery and to augment both faculty and student success. Such support is provided by the Center for Advancing Faculty Excellence (CAFÉ), the Center for Innovation in Teaching and Learning (CITL), and Information Technology Services (ITS) and, at minimum, will include training and workshop sessions on:

- a. Effective use of the Learning Management System (LMS);
- b. Accessibility, Copyright, Intellectual Property, and Fair Use Issues unique to online and distance education;
- c. Supported Instructional Technology;
- d. Best practices in online and distance education (course development and evaluation, including principles of Universal Design).

3. ~~Tennessee Tech Policy 732 (Intellectual Property) applies to online and distance education as it does for any other course modality.~~

~~4. 3. Any faculty or staff member who teaches through online and distance education is subject to compliance with Tennessee Tech policies related to confidentiality, data security, Personally Identifiable Information (PII), and any other policy and procedure related to the security of personal and student information, including Policy 801 (Information Technology Acceptable Use),~~

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Commented [RB13]: Suggested deletion per Faculty Senate Review: this is original policy language but no concerns re: necessity of inclusion and therefore can be deleted

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Commented [RB14]: Revised per University Council review on 9/29/2021 – statement is redundant with “comparably” in the sentence

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Commented [RB15]: Suggested deletion per Faculty Senate Review: already mentioned in policy earlier (redundant)

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and Policy 1206 (Confidentiality of Student Records and FERPA Compliance) as it does for any other course modality.

**C. Library and Learning Resources**

Tennessee Tech’s Volpe Library will provide resources and services to support the online and distance education degrees, disciplines, and efforts of the university, including, but not limited to:

1. Timely access to the Tennessee Tech Volpe Library’s resources and services in order to meet the informational needs of online and distance education students and faculty.
2. Online access to research databases, e-books, full-text journal articles, document delivery, and other online materials, required for student success in a course.
3. Online services provided by Tennessee Tech Volpe Library interlibrary loan, research help, tutorials, and other services.
4. Comparable access to library staff support and services as those provided to students who are enrolled in conventional, on-campus, courses and/or programs.

**D. Students**

1. Students participating in online and distance education courses will have adequate access to the following student services online:
  - a. Admissions, registration, health services, counseling services, financial aid, business services, library services, including tutoring, career services, advisement, and disability accommodations.
  - b. Bookstore, library resources, course catalog, student handbook, and university calendar through the Tennessee Tech website.
  - c. Information technology services and learning management system support online and during extended business after business hours is available through Information Technology Services (ITS) and CITL services, respectively.
  - d. Tennessee Tech will provide appropriately licensed software and the training in use of this software.

**Commented [RB16]:** Revised following Academic Council meeting recommendations on 10/6/2021

**Commented [RB17]:** Deleted “online” – already stated in D.1

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**Commented [RB18]:** Suggested modification per Senate Review: this is original policy language and expectation of SACSCOC and NC-SARA guidelines. Edited for clarity.

- 2. Online and distance education students will receive a Tennessee Tech secure account login and password which provides access to a TTU secure single sign-on (SSO) through Tech Express. Tech Express allows secure navigation for students across Eagle Online, the learning management system, and other required systems, including proctored examinations, and other student verification technologies.
- 3. Online and distance education students may use the same complaint process and grade appeals process as would students taking conventional, on-campus, courses, as outlined in TTU Policy 218 (Grade Appeals) and TTU Policy 301 (TTU Student Complaint).
- 4. Online and distance education students are subject to TTU Policy 217 (Academic Misconduct).

E. Institutional Effectiveness

- 1. Tennessee Tech will evaluate its online and distance education teaching using accepted assessment and evaluation tools adopted by the institution and coordinated through the Office of Institutional Assessment, Research, and Effectiveness (IARE). Tennessee Tech shall ensure online and distance education students have opportunity to complete course evaluations ~~each semester through University-approved Student Evaluation of Teaching questionnaire~~. Fully online and distance education programs are subject to THEC program reviews unless the program has other program review relative to external accreditation requirements. Additional course quality measures and assessments specific to online and distance education course and program delivery will be completed in coordination with the Center for Innovation in Teaching and Learning (CITL).
  - a. ~~IARE evaluations will occur each semester through University-approved Student Evaluation of Teaching questionnaire. Course quality checks specific to online and distance education and based off national standardized rubrics, will occur, at minimum, annually, or more frequently as needed, through the CITL in coordination with the program leadership in the Colleges/Schools/Departments.~~
  - b. ~~Department Chairs, School Directors, and Faculty are responsible for timely and continuous improvement in online and distance education course and program delivery, based on evaluation data received from the Office of IARE and quality assessment reviews from the CITL.~~

**Commented [RB19]:** Added following recommendations from the Academic Council meeting on 10/6/2021

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**Commented [RB20]:** Suggested deletion per Faculty Senate Review: Quality Review relative institutional compliance with NC-SARA guidelines and membership is to be explicitly stated. Section edited for clarity and moved to E.2

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**Commented [RB21]:** Moved to last sentence of E.1 statement

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**Commented [RB22]:** Suggested deletion per Senate Review: Section included language from the original policy. Quality Review relative institutional compliance with NC-SARA guidelines and membership is to be explicitly stated. Section edited for clarity and moved to E.2

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**Commented [RB23]:** Suggested deletion per Senate Review: This is original policy language. Quality Review relative institutional compliance with NC-SARA guidelines and membership is to be explicitly stated. Section edited for clarity and moved to E.2

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~~e. Programs offering distance education courses will comply with the Communications and Marketing Publication Guide, TTU Policy 1103 (University Social Media Policy), TTU Policy 1110 (University Publications), TTU Policy 801 (Information Technology Acceptable Use Policy), and TTU Policy 1111 (Trademarks and Licensing), where applicable, when advertising, recruiting, or sharing admissions information.~~

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~~2. Tennessee Tech's CITL, in coherence and coordination with departmental, college, and programmatic curricular goals, may assist faculty, departments, and colleges with course development, revisions, and periodic course quality reviews, regardless of course modality.~~

Commented [RB24]: Following edits to this overall section, section was not relevant and applied more to infrastructure. Therefore, it was moved to IV.F.3  
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~~2.3~~ Tennessee Tech will regularly assess and evaluate library services and online student support services to ensure that online and distance education students have services that are comparable to those courses and programs delivered in a conventional, on-campus, modality.

Commented [RB25]: Revised following Faculty Senate meeting on 9/27/2021  
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F. Infrastructure and Finances

1. Tennessee Tech ~~will provide~~s appropriate equipment, software, communications, and network access, as well as instructional technology training and faculty professional development opportunities, for faculty to effectively support faculty and student engagement in courses and programs offered through online and distance education.

~~2.~~ Tennessee Tech, in making online and distance education courses and programs a part of its mission, ~~will provide~~s sufficient fiscal support to ensure ~~there is~~ adequate infrastructure in support of course development and delivery of courses and programs offered through online and distance education. Such fiscal support is intended to enhance infrastructure for faculty and student services required to deliver successful and competitive online and distance education courses and program delivery.

Commented [RB26]: Clarifying revision upon edits to F.3. following Faculty Senate meeting on 9/27/2021  
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~~2.3~~ Tennessee Tech ~~will provide~~s ~~a comparable level sufficient marketing of support~~ for online and distance education ~~programs~~ course creation and ~~revision, marketing, and course and program revision~~ as it provides for all other ~~courses~~ programs delivered in a conventional, on-campus modality. Marketing of programs offering online and distance education courses will comply with the Communications and Marketing Publication Guide, TTU Policy 1103 (University Social Media Policy), TTU Policy 1110 (University Publications), TTU Policy 801 (Information Technology Acceptable Use

Commented [RB27]: Clarifying revision following Faculty Senate meeting on 9/27/2021. Deletion is moved to F.2.

Policy), and TTU Policy 1111 (Trademarks and Licensing), where applicable, when advertising, recruiting, or sharing admissions information.

**Commented [RB28]:** This was a section moved from E.1.C

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**V. Interpretation**

The Provost or his/her designee has the final authority to interpret the terms of this policy.

**VI. Citation of Authority for Policy**

T.C.A. § 49-8-203(2016)

**Approved by:**

Academic Council: November 9, 2016; ~~March 10, 2021~~; October 6, 2021

University Assembly: November 16, 2016; ~~November 17, 2021~~

Board of Trustees: June 15, 2017; ~~2021~~

**Commented [RB29]:** Past approval dates added back per PolicyTech requirements



## Agenda Item Summary

8.1

**Date:** December 2, 2021

**Agenda Item:** B.S. in Animal Science

**Review**

**Action**

**No action required**

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**PRESENTERS:** Dr. Lori Bruce

**PURPOSE & KEY POINTS:** It has been indicated that the animal science and pre-vet programs in the School of Agriculture would be more advantageous if they lead to a B.S. degree in Animal Science rather than a B. S. Degree in Agriculture. Changing to the B.S. degree in the animal science disciplines is expected to improve recruiting efforts for the School of Agriculture and to enhance career opportunities for our graduates.



## School of Agriculture

TENNESSEE TECH

**TO:** University Curriculum Committee

**VIA:** Dr. Darron Smith, Dean  
College of Agriculture and Human Ecology

**VIA:** College of Agriculture and Human Ecology Curriculum Committee

**FROM:** Dr. Bruce Greene, Director  
School of Agriculture

**DATE:** October 21, 2021

**RE:** Academic Program Modification Proposal

- A. **Course Additions:** None
- B. **Course Deletions:** None
- C. **Course Changes:** None
- D. **Curriculum Changes:**

**From:** B.S. in Agriculture concentrations (Animal Science and Pre-Veterinary Science)

**To:** B.S. in Animal Science with concentrations in Animal Science Industries and Pre-Veterinary Science

**Justification:** The School of Agriculture currently provides one degree, a B.S. degree in Agriculture, that includes 11 concentrations representing various disciplines within the major. The combined Animal Science and Pre-Veterinary Science concentrations have comprised approximately 34% of the total enrollment over the past 5 years. Average number of graduates in these two concentrations has been 19 over the past 5 years. Potential student recruits, current students, alumni, and potential employers of graduates oftentimes have indicated that the animal science and pre-vet programs in the School of Agriculture would be more advantageous if they lead to a B.S. degree in Animal Science rather than a B. S. Degree in Agriculture. Changing to the B.S. degree in the animal science disciplines is expected to improve recruiting efforts for the School of Agriculture and to enhance career opportunities for our graduates.

### **Potential Impact of Modification on Current Program**

**Effective Date:** Fall 2022

**Financial Impact:** None

THEC Academic Program Modifications (APM) Proposal

Change the Major: B.S. in Agriculture with concentrations in Animal Science and  
Pre-Veterinary Science

to

B.S. in Animal Science

with concentrations in Animal Science Industries and Pre-Veterinary Science

School of Agriculture

College of Agriculture and Human Ecology

Tennessee Tech University

## Table of Contents

<b>THEC Academic Program Modifications (APM) Checklist</b> .....	3
<b>1. Cover Letter from Chief Academic Officer Verifying the Proposed Program Submission Has Gone Through All Necessary Institutional Approval Channels</b> .....	3
<b>2. Current and Proposed Program Name (and any concentrations), Degree Designation, and CIP Code</b> .....	3
<b>3. Proposed Implementation Date:</b> .....	3
<b>4. Proposed Termination Dates for Any Concentrations Proposed as Free Standing:</b> .....	3
<b>Anticipated Delivery Site:</b> .....	4
<b>Academic Program Liaison (APL) Name and Contact Information:</b> .....	4
<b>Background for Proposed Academic Program Modification:</b> .....	4
<b>Need for Program</b> .....	4
<b>Potential Impact of Modification on Current Program</b> .....	5
<b>Existing Programs Offered at Public and Private Tennessee institutions</b> .....	5
<b>Enrollment and Degrees Awarded by Concentration</b> .....	6
<b>Total Program</b> .....	8
a. Courses Leading to a Bachelor Degree in Animal Science (B.S. ANS) with an Animal Science Concentration: .....	8
b. Courses Leading to a Bachelor Degree in Animal Science (B.S. ANS) with a Pre-Veterinary Science Concentration: .....	10

## THEC Academic Program Modifications (APM) Checklist

1. Cover Letter from Chief Academic Officer Verifying the Proposed Program Submission Has Gone Through All Necessary Institutional Approval Channels

2. Current and Proposed Program Name (and any concentrations), Degree Designation, and CIP Code

Before the Proposed Change			After the Proposed Change		
(List as it now appears on the official Academic Program Inventory at THEC.)			(List as it should appear on the official Academic Program Inventory at THEC, once approved.)		
Title	Degree	CIP Code	Title	Degree	CIP Code
Title of Existing Academic Program (include all existing concentrations before program modification)			Title of New Program after program modification is approved (including all concentrations)		
BS in Agriculture, Animal Science Concentration with Animal Science Option and Pre-Veterinary Science Option.	B.S.AG.	01.01.0000.00	B.S. in Animal Science; Animal Science Industries Concentration, B.S.ANS Pre-Veterinary Science Concentration, B.S.ANS	B.S. in Animal Science	1.01.0901.00

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3. Proposed Implementation Date:  
Fall, 2022

4. Proposed Termination Dates for Any Concentrations Proposed as Free Standing:  
May, 2023

**Anticipated Delivery Site:**

Tennessee Technological University, College of Agriculture and Human Ecology, School of Agriculture

**Academic Program Liaison (APL) Name and Contact Information:**

Dr. Bruce Greene, Director  
School of Agriculture  
Tennessee Tech University  
Box 5034,  
Cookeville, TN 38505  
[bgreene@tntech.edu](mailto:bgreene@tntech.edu)  
(931) 372-3019

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**Background for Proposed Academic Program Modification:**

Tennessee Tech School of Agriculture currently provides one degree, a B.S. degree in Agriculture, that includes 11 concentrations representing various disciplines within the major. The combined Animal Science and Pre-Veterinary Science concentrations have comprised approximately 34% of the total enrollment over the past 5 years (Average of 105 students). The average number of graduates in these two concentrations is 19 over the past 5 years. Potential student recruits, current students, alumni, and potential employers of graduates oftentimes have indicated that the animal science and pre-vet programs in the School of Agriculture would be more advantageous if they lead to a B.S. degree in Animal Science rather than a B. S. Degree in Agriculture.

**Need for Program**

a) Recruiting Efforts: The majority of our recruiting efforts in the School of Agriculture are directed toward high school students with backgrounds in FFA, Agricultural Education, and 4-H programs because many of our current students come from those backgrounds. Anecdotal evidence would imply that it is sometimes confusing to these students when they are told that we have one bachelor's degree in agriculture at Tennessee Tech. Many of them have been accustomed to taking courses in specific disciplinary areas within agriculture and wish to enroll in one of those sub-disciplinary areas of study. A change from the B.S. in Agriculture to the B.S. in Animal Science within the School of Agriculture program will alleviate this problem for many of our students.

b) Career Advantage for Graduates: The first two listed general learning outcome goals of the School of Agriculture are to prepare students for employment in agricultural careers and for entry and advancement in graduate schools and professional programs. According to data reported by the Food and Agriculture Education Information System (FAEIS, <https://faeis.cals.vt.edu/>) a 5-year average (2004-2012) total of 20887 baccalaureate degrees in agriculturally-related fields were awarded



to students by United States Colleges and Universities. Approximately 25% of these degrees were awarded to students in the combined Animal and Pre-Vet-related fields. Only 6% of the degrees were titled General Agriculture. There is an obvious association of degrees related to animal and pre-veterinary science including some language directly or indirectly related to “Animal” in degrees that prepare students for animal-related industries and post-graduate professional programs. Including this descriptive title of “Animal Science” in the baccalaureate degree in the School of Agriculture will help students successfully prepare and compete for jobs in animal-related industries and graduate schools.

**Potential Impact of Modification on Current Program**

Excluding the animal and pre-veterinary science concentrations, the previous 5-year average fall enrollment for the School of Agriculture was 206 students and an average of 49 degrees per year were conferred. Thus, the number of students enrolled in the B.S. program in Animal Science should remain the same or increase due to the improved clarity and marketability of the degree, and the remaining enrollment and number of degrees conferred per year in the remaining B.S. degree in Agriculture (Representing Agribusiness Management, Agricultural Communications, Agricultural Education, Agricultural Engineering Technology, and Agricultural Science and Management) should remain adequate to sustain the degree.

**Existing Programs Offered at Public and Private Tennessee institutions**

UNIVERSITY	DEGREE	MAJOR	CONCENTRATIONS	CIP CODE
Middle Tennessee State University	BS	Animal Science	Horse Science	01.01.0901.00
University of Tennessee, Knoxville	BSAN	Animal Science	Animal Industries	01.01.0901.00
			Bioscience	
			Pre-Veterinary Medicine 3+1	
			Pre-Veterinary Medicine	
			Five Year BS/MS	

**8.2**

**Enrollment and Degrees Awarded by Concentration**

**School of Agriculture  
Enrollment by Concentration**

Concentration	FALL SEMESTER					5-Year Average
	2016	2017	2018	2019	2020	
Agribusiness Management	80	84	82	81	74	80
Agricultural Communication	7	5	11	8	5	7
Agricultural Education	19	18	26	24	21	22
Agricultural Engineering Technology	52	45	46	52	50	49
Agricultural Science and Management	--	--	--	2	8	5
Agronomy and Soils	8	14	8	8	8	9
Animal Science	47	42	38	38	34	40
Animal Science - Pre-Veterinary Science	74	68	66	57	59	65
Environmental Agriscience	13	11	7	7	4	8
Horticulture	10	13	16	19	18	15
Nursery & Landscape Management	2	2	5	5	8	4
Turfgrass Management	4	5	6	5	4	5
<b>School of Agriculture</b>	<b>316</b>	<b>308</b>	<b>311</b>	<b>306</b>	<b>293</b>	<b>307</b>

**School of Agriculture  
Degrees Awarded by Concentration**

YEAR	2016-17	2017-18	2018-19	2019-20	20-21	5-Year Averages
Agribusiness Management	23	23	17	20	17	20
Agricultural Communications	4	3	4	1	2	3
Agricultural Education	2		2	4	4	3
Agricultural Engr. Technology	15	15	13	9	14	13
Agronomy & Soils	1	4	3	2	3	3
Ag Science and Management					1	1
Animal Science	12	17	16	10	11	13
Animal Science - Pre Veterinary	5	7	10	4	6	6
Environmental Agriscience	2	4	1	2	1	2
Horticulture	1	4	3	5	1	3
Nursery & Landscape Mgmt.	2		1		0	1
Turfgrass Management	1	1	1	2	0	1
<b>School of Agriculture (BSAg)</b>	<b>68</b>	<b>78</b>	<b>71</b>	<b>59</b>	<b>60</b>	<b>67</b>

**Student Learning Outcomes:**

1. Strengthen the animal science curriculum and increase resources and opportunities for student learning.
2. Provide “hands-on” and “real world” experiences providing unique learning experiences for students
3. Prepare students for employment and to advance in Agricultural careers or entry and advancement in graduate school and professional programs.
4. Provide students with opportunities to participate in activities and programs that enhance their leadership and social development and to develop team building and problem-solving skills beyond the classroom to enhance the food, agriculture, and natural resource system.
5. Students will sharpen critical thinking skills and problem-solving abilities through a variety of situations

**Assessment:**

1. Nationally standardized comprehensive senior exit exam (ACAT) covering core curriculum. The ACAT provides the faculty with an assessment of how students in the School of Agriculture compare with other animal science programs relative to the program in other institutions.
2. Teacher evaluation tool used by Tennessee Tech (IDEA) to provide faculty with a means to assess the effectiveness of their specific course content.
3. A new survey tool asking potential employers to assess the effectiveness and needs for improvement in the animal science program. The survey will be provided to potential employers at all animal science student interviews and career events.
4. The School of Agriculture Alumni Follow-up Survey, requested periodically from a large and varied array of alumni, will be adapted to provide feedback on academic experiences of alumni and the effectiveness of the B. S. degree in Animal Science program in preparation of students for the workplace.
5. The School of Agriculture Graduating Exit Interview and Survey contains many of the same questions as the School of Agriculture Alumni Follow-up Survey in Number 4. Asking the same questions on both surveys, at graduation and after graduation, provides the opportunity to compare questionnaire results of student’s perception of the program effectiveness at the time of graduation and then again after graduation and spending time in the workplace.

**Accreditation:**

The proposed program is not a substantive change and does not require a SACSCOC review. Programmatic accreditation is not applicable for the program.

### Current and Proposed Curriculum Requirements

a. Courses Leading to a Bachelor Degree in Animal Science (B.S. ANS) with an Animal Science Concentration:

<b>General Education Courses:</b>		<b>Credits</b>
	ENGL 1010 (English Composition I)	3
	ENGL 1020 (English Composition II)	3
	PC 2500 (Communicating in the Professions) or COMM 2025 (Fundamentals of Communication)	3
	HIST 2010 (Early US History)	3
	HIST 2020 (Modern US History)	3
	CHEM 1010 (Introductory Chemistry I)	4
	CHEM 1020 (Introductory Chemistry II)	4
	Literature Elective	3
	Humanities/Fine Arts Electives	6
	Math 1130 (College Algebra) or MATH 1530 (Introductory Statistics)	3
	Social Science Electives	6
<b>Agricultural (Non-Animal Science) Core Courses:</b>		
	AGR 1020 (Connections in Agriculture)	1
	AGBE 2100 (Economics of Agriculture)	3
	AGRN 1100 (Plant Science)	3
	AGRN 1110 (Plant Science Laboratory)	1
	AGET 1600 (Practical Applications in Agricultural Systems)	3
	AGET 2110 and 2115 (Agricultural Engineering Technology) or AGET 3110 and 3115 (Natural Resource Systems)	3
	AGRN 3000 (Soils)	4
	AGRN 4130 (Forage Crops Production and Management)	3
	Agricultural Upper Division Elective (Non-ANS course)	3
	AGR 3000 (Leadership and Service) or AGR 3200 (Study Abroad Exploration)	3
	AGR 2022 (Professionalism in Agriculture and Human Ecology)	1

AGR 4500 (Senior Seminar)	1
AGBE 3230 (Data Acquisition and Computer Analysis in Agribusiness)	3
<b>Animal Science Courses:</b>	
ANS 1200 (Introductory Animal Science)	3
ANS 1210 (Introductory Animal Science Laboratory)	1
ANS 2020 (Livestock Management)	3
ANS 2110 (Livestock Evaluation)	3
ANS 3010 (Animal Nutrition)	3
ANS 3130 (Animal Breeding)	3
ANS 3020 (Feeds and Feeding)	3
ANS 3140 (Reproduction in Farm Animals)	3
ANS 3150 (Common Diseases and Parasites of Domestic Animals)	3
4000 Level Animal Science Production Course	6
ANS 3310 (Meat, Dairy and Poultry Products)	3
<b>Other Required Courses:</b>	
BIOL 1123 (General Biology II)	4
CHEM 3005 (Elementary Organic Chemistry)	4
BIOL 3200 (General Microbiology) or BIOL 3230 (Health Science Microbiology)	4
<b>Elective Credit:</b>	1

b. Courses Leading to a Bachelor Degree in Animal Science (B.S. ANS) with a Pre-Veterinary Science Concentration:

<b>General Education Courses:</b>	<b>Credits</b>
ENGL 1010 (English Composition I)	3
ENGL 1020 (English Composition II)	3
PC 2500 (Communicating in the Professions) or COMM 2025 (Fundamentals of Communication)	3
HIST 2010 (Early US History)	3
HIST 2020 (Modern US History)	3
CHEM 1110 (General Chemistry I)	4
CHEM 1120 (General Chemistry II)	4
Literature Elective	3
Humanities/Fine Arts Electives	6
Math 1130 (College Algebra) or MATH 1530 (Introductory Statistics)	3
Social Science Electives	6
<b>Agricultural (Non-Animal Science) Core Courses:</b>	
AGR 1020 (Connections to Agriculture)	1
AGBE 2100 (Economics of Agriculture)	3
AGRN 1100 (Plant Science)	3
AGRN 1110 (Plant Science Laboratory)	1
AGET 2110 and 2115 (Agricultural Engineering Technology) or AGET 3110 and 3115 (Natural Resource Systems)	3
AGRN 3000 (Soils)	4
AGR 2022 (Professionalism in Agriculture and Human Ecology)	1
AGR 4500 (Senior Seminar)	1
<b>Animal Science Courses:</b>	
ANS 1200 (Introductory Animal Science)	3
ANS 1210 (Introductory Animal Science Laboratory)	1
ANS 2020 (Livestock Management)	3
ANS 3010 (Animal Nutrition)	3
ANS 3130 (Animal Breeding)	3
ANS 3140 (Reproduction in Farm Animals)	3
ANS 3150 (Common Diseases and Parasites of Domestic Animals)	3
ANS 3330 (Anatomy and Physiology of Livestock Animals)	3
4000 Level Animal Science Production Course	3

<b>Other Required Courses:</b>		
BIOL 1123 (General Biology II)		4
BIOL 2310 (General Botany)		4
BIOL 3140 (Cellular Biology)		4
MATH 1530 (Introductory Statistics)		3
CHEM 3010 (Organic Chemistry I)		4
CHEM 3020 (Organic Chemistry II)		4
CHEM 4610 (General Biochemistry I)		3
CHEM 4620 (General Biochemistry II)		3
PHYS 2010 (Algebra-based Physics I)		4
PHYS 2010 (Algebra-based Physics II)		4

**New Courses Needed:**

None

**Curriculum Crosswalk of Proposed Curriculum to Accreditation Competencies (if applicable):**

Not applicable

**Distance Learning:**

This program will not be offered via distance learning.

**Current and Proposed Admission, Retention and Graduation Policies:**

The admission, retention and graduation policies will not be altered for this program. The admission criteria for this program will be the same as the ones for BS in Agriculture.

**Current Faculty:\***

<b>Name</b>	<b>Rank</b>	<b>Highest Degree</b>	<b>Primary Department</b>	<b>FTE in Program</b>	<b># of Theses &amp; Dissertations</b>
Dr. Dennis Fennewald	Assoc. Prof.	Ph. D.	Agriculture	1.0	N/A
Dr. Ciana Bowhay	Assist. Prof.	Ph. D.	Agriculture	1.0	N/A
Dr. Victoria Ayres	Assist. Prof.	Ph. D.	Agriculture	1.0	N/A
*	Assist. Prof.	Ph. D.	Agriculture	1.0	N/A

\* A search is under way to hire an animal scientist with a background in ruminant grazing.

Tennessee Higher Education Commission								
Appendix A: THEC Financial Projections Form								
Tennessee Tech University								
Bachelor of Science Degree in Animal Science								
Seven-year projections are required for doctoral programs.								
Five-year projections are required for baccalaureate and Master's degree programs								
Three-year projections are required for associate degrees and undergraduate certificates.								
Projections should include cost of living increases per year.								
Planning year projections are not required but should be included when appropriate.								
	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>I. Expenditures</b>								
<b>A. One-time Expenditures</b>								
New/Renovated Space <sup>1</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Library	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total One-time</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>B. Recurring Expenditures</b>								
<b>Personnel</b>								
<b>Administration</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Administration</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Faculty</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Faculty</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Support Staff</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Support Staff</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Graduate Assistants</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tuition and Fees* (See Below)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Graduate Assistants</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Operating</b>								
Travel	\$ -	\$ 1,200	\$ 360	\$ 360	\$ 360	\$ 360	\$ 360	\$ -
Printing	\$ -	\$ 950	\$ 285	\$ 285	\$ 285	\$ 285	\$ 285	\$ -
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ -
<b>Sub-Total Operating</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ -
<b>Total Recurring</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ -
<b>TOTAL EXPENDITURES (A + B)</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ -
<b>*If tuition and fees for Graduate Assistants are included, please provide the following information.</b>								
Base Tuition and Fees Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Number of Graduate Assistants	-	-	-	-	-	-	-	-
	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>II. Revenue</b>								
Tuition and Fees <sup>2</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Institutional Reallocations <sup>3</sup>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ -
Federal Grants <sup>4</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Grants or Gifts <sup>5</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other <sup>6</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>BALANCED BUDGET LINE</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ 2,145	\$ -
<b>Notes:</b>								
<b>(1) Provide the funding source(s) for the new or renovated space.</b>								
<b>(2) In what year is tuition and fee revenue expected to be generated? Tuition and fees include maintenance fees, out-of-state tuition, and any applicable earmarked fees for the program. Explain any differential fees.</b>								
<b>(3) Identify the source(s) of the institutional reallocations, and grant matching requirements if applicable. Recruiting funds.</b>								
<b>(4) Provide the source(s) of the Federal Grant including the granting department and CFDA(Catalog of Federal Domestic Assistance) number.</b>								
<b>(5) Provide the name of the organization(s) or individual(s) providing grant(s) or gift(s).</b>								
<b>(6) Provide information regarding other sources of the funding.</b>								



## APPENDIX A

## EXPLANATION OF ESTIMATED FINANCIAL EXPENDITURES

1. Operating:
  - a. Travel for Student Recruitment:
    - i. Estimated cost of travel for recruiting for first year is \$1,200, based on previous expenditures in the School of Agriculture
    - ii. Recruitment travel expenditures for the BS degree estimated as 1/3 of the total yearly recruitment travel budget based on the fact that the students in the degree compose approximately 30% of the School of Agriculture student body.
  - b. Printing:
    - i. Printing costs estimated at previous year's printing costs for recruitment brochures because all brochures must be updated if the B.S. degree in Animal Science is approved
    - ii. Printing costs in years subsequent to the first year are estimated at 1/3 the total printing costs for recruitment, given that approximately 30% of the student body in the School of Agriculture are animal science and pre-veterinary science majors
  - c. Other Expenses:
    - i. Promotional items for recruiting purpose: Previous yearly costs of novelty items for recruiting purposes have been approximately \$5,000. Estimated costs of recruiting for the proposed program are 30% of that cost each year, based on the fact that enrollment in the animal science discipline is approximately 1/3 of total enrollment.

**Tennessee Higher Education Commission  
Appendix A: THEC Financial Projections Form  
Tennessee Tech University  
Bachelor of Science Degree in Animal Science**

Seven-year projections are required for doctoral programs.  
Five-year projections are required for baccalaureate and Master's degree programs  
Three-year projections are required for associate degrees and undergraduate certificates.  
Projections should include cost of living increases per year.  
Planning year projections are not required but should be included when appropriate.

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>I. Expenditures</b>								
<b>A. One-time Expenditures</b>								
New/Renovated Space <sup>1</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Library	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total One-time</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>B. Recurring Expenditures</b>								
<b>Personnel</b>								
<b>Administration</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Administration</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Faculty</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Faculty</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Support Staff</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Support Staff</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Graduate Assistants</b>								
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tuition and Fees* (See Below)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Graduate Assistants</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Operating</b>								
Travel	\$ -	\$ 1,200	\$ 360	\$ 360	\$ -	\$ -	\$ -	\$ -
Printing	\$ -	\$ 950	\$ 285	\$ 285	\$ 285	\$ 285	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ 1,500	\$ 1,500	\$ 1,500	\$ -	\$ -	\$ -	\$ -
<b>Sub-Total Operating</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 285	\$ 285	\$ -	\$ -
<b>Total Recurring</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 285	\$ 285	\$ -	\$ -
<b>TOTAL EXPENDITURES (A + B)</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 285	\$ 285	\$ -	\$ -

\*If tuition and fees for Graduate Assistants are included, please provide the following information.

Base Tuition and Fees Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Number of Graduate Assistants	-	-	-	-	-	-	-	-	-

**II. Revenue**

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Tuition and Fees <sup>2</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Institutional Reallocations <sup>3</sup>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 285	\$ 285	\$ -	\$ -
Federal Grants <sup>4</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Grants or Gifts <sup>5</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other <sup>6</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>BALANCED BUDGET LINE</b>	\$ -	\$ 3,650	\$ 2,145	\$ 2,145	\$ 285	\$ 285	\$ -	\$ -

**Notes:**

**(1) Provide the funding source(s) for the new or renovated space.**

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

**(3) Identify the source(s) of the institutional reallocations, and grant matching requirements if applicable.**  
Recruiting funds.

**(4) Provide the source(s) of the Federal Grant including the granting department and CFDA(Catalog of Federal Domestic Assistance) number.**

**(5) Provide the name of the organization(s) or individual(s) providing grant(s) or gift(s).**

**(6) Provide information regarding other sources of the funding.**

8.2



## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Expedited Letter of Notification for the B.S. in Interdisciplinary Computing and Innovation

**Review**

**Action**

**No action required**

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**PRESENTERS:** Dr. Lori Bruce

**PURPOSE & KEY POINTS:** The Interdisciplinary Computing and Innovation (ICI) program is being proposed to address the ever growing need to create a workforce that can apply computing solutions across disciplines.

9.1



## Office of the President

TENNESSEE TECH

November 4, 2021

Emily House  
Executive Director  
Tennessee Higher Education Commission  
312 Rosa Parks Ave, 9th Floor  
Nashville, TN 37243

9.2

Dear Executive Director House:

In accordance with THEC policy A 1.6 Expedited Academic Programs: Approval Process, Tennessee Tech University submits an expedited letter of notification (ELON) for a new program in the Department of Computer Science in the College of Engineering. This proposed **Bachelor of Science in Interdisciplinary Computing and Innovation (ICI) Program** will address the ever growing need to create a workforce that can apply computing solutions across disciplines.

Computing has had a great impact on the way that government, education, entertainment, commerce, and industry operates, innovates, and creates. The greatest impact over the past 50 years has been through the increased application of computing solutions to every one of these sectors. This has created a demand for computer science graduates, and while there has been some movement toward informal or ancillary “coding camp”-based training programs.

We recognize, however, that computer science programs may swing to the other end of the spectrum, where gaining expertise in computing is emphasized over other knowledge necessary to apply computing in either established or emerging industries. We are proposing, instead, to create a computing program that lives in the intersection between disciplines in order to allow the 21st century learner to combine interests and skills in cognate areas with the knowledge of computing and data sciences in order to lead organizations to discover new innovations for solving problems. In addition, we believe this program creates a pathway for adult learners identified through Tennessee Reconnect to pursue computing degrees while also relying on knowledge gained from careers or past military service.

We request this ELON to be considered for expedited academic program approval because computer science, in the 21st century, is fundamental.

A recent article in Inside Higher Ed noted that students need a computer science foundation to prepare for success later in their curriculum. Archaeologists write programs to piece together fragments of ancient ruins. Economists apply deep learning models to financial data. Linguists write programs to study statistical properties of literary works. Physicists study computational models of the universe to analyze its origins. Musicians work with synthesized sound. Biologists seek patterns in genomes. Geologists study the evolution of landscapes. Artists work with digital images.

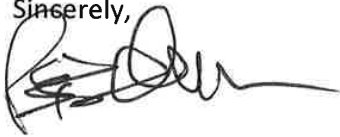
The ICI program will cultivate the intersections that already exist within the college environment. In addition to the physical computing technologies being used, the increased use of machine learning and analytics is changing the way that every industry conducts business.

In February 2019, Gov. Lee said that 58% of all STEM jobs created in the country are in computer science fields, but only 8% of graduates study computer science in college. Gov. Lee has made computer science a major component of his legislative agenda. According to the U.S. Department of Labor Bureau of Labor Statistics, the computer and information technology field is expected to grow by 22% from 2019-2029 — faster than the average growth rate of all occupations. By 2026, another 557,100 jobs are expected to be added within the field.

The ICI program can help recruit, retain, graduate, and employ students that have a strong foundation in technical (computer science) and critical thinking skills (i.e., innovation) while being competent in established and emerging disciplines. The ICI program will weave technology infused coursework into the deep knowledge base to build a 21st century degree that more effectively and efficiently addresses the challenges of a changing world.

Please consider this letter a formal request for the expedited approval process.

Sincerely,



Philip B. Oldham  
President

**Expedited Letter of Notification**  
for the  
Bachelor of Science  
in  
*Interdisciplinary Computing and Innovation Program*

Submitted By  
Tennessee Technological University

Overview ..... 1  
    Academic Program Liaison (APL) name and contact information ..... 1  
    Implementation timeline ..... 1  
Background and Overview ..... 1  
    Background narrative ..... 1  
    Justification for consideration of expedited policy ..... 2  
    Existing programs of study at the institution ..... 3  
    Community and industry partnerships ..... 3  
Accreditation ..... 3  
Administrative Structure ..... 4  
Enrollment and Graduation Projections ..... 2  
    *Table 1 – Projected Enrollments and Graduates* ..... 2  
Institutional Alignment and Demand ..... 2  
    Alignment with State Master Plan and institutional mission profile ..... 2  
    Student interest ..... 4  
    Existing programs offered at public and private Tennessee universities ..... 4  
    Articulation and transfer ..... 5



**Overview**

Tennessee Technological University  
 Interdisciplinary Computing and Innovation (ICI)  
 Bachelor of Science  
 11.0104  
 Informatics

**Academic Program Liaison (APL) name and contact information**

Gerald C. Gannod  
 Department of Computer Science  
 Box 5101  
 Tennessee Technological University  
[jgannod@tntech.edu](mailto:jgannod@tntech.edu)  
 931-372-6855

9.3

**Implementation timeline**

Action	Timeline Option #1
Submission of the Expedited Letter of Notification (ELON)	November 15, 2021
THEC Approval of the ELON	November 22, 2021
Develop the Expedited New Academic Program Proposal (ENAPP)	November 22, 2021 – February 28, 2021
University Curriculum Committee (UCC) Approval of ENAPP	March 2022
Academic Council Approval of ENAPP	March 2022
Submit ENAPP to THEC and a list of proposed external reviewers	March 2022
Send NAPP to the External Reviewer	March 2022
External Reviewer Visit (Virtual)	April 2022
External Review's Report due	May 2022
Response to External Reviewer's report and revised ENAPP	May 2022
THEC Support Letter	June 2022
Tennessee Tech Board of Trustees	June 23, 2022
THEC Commission Meeting	July 2022
<b>Program Effective Date</b>	<b>August 2023</b>

**Background and Overview****Background narrative**

The Interdisciplinary Computing and Innovation (ICI) program is being proposed to address the ever growing need to create a workforce that can apply computing solutions across disciplines. Computing has had a great impact on the way that government, education,

entertainment, commerce, and industry operates, innovates, and creates – indeed, the greatest impact over the past 50 years has been through the increased application of computing solutions to every one of these sectors. This has created a demand for computer science graduates, and while there has been some movement towards informal or ancillary “coding camp”-based training programs, such efforts result in creation of a trade mentality. We recognize, however, that computer science programs may swing to the other end of the spectrum, where gaining expertise in computing eschews other knowledge necessary to apply computing in either established or emerging industries. We are proposing, instead, to create a computing program that lives in the “intersection” between disciplines in order to allow the 21<sup>st</sup> century learner (i.e., digital and information age natives) to combine interests and skills in cognate areas with the knowledge of computing and data sciences in order to lead organizations to discover new innovations for addressing the problems of an ever-dynamic world. In addition, we believe this program creates a pathway for adult learners identified through Tennessee Reconnect to pursue computing degrees while also relying on knowledge gained from careers or past military service.

As such, the goals of this program are three-fold:

- To provide educational opportunities for students seeking careers in the “intersection” between the disciplines of computer science, innovation and entrepreneurship, and the many disciplines that form our public and private sector workforce
- To establish partnerships with the program stakeholders, especially employers, in order to ensure future success of program graduates while also paving the way for addressing the need to develop a 21<sup>st</sup> century workforce
- To launch the ICI Program with a cohort of students that come from a diverse set of backgrounds and experiences

The ICI program will consist of 120 credit hours in a mixture of hybrid and face-to-face courses that emphasize experiential and learner-centered instruction, including the use of practice-based studio courses. We expect to attract a wide variety of students ranging from traditional populations to adult learners and military veterans.

#### **Justification for consideration of expedited policy**

Computing is increasingly driving the transformations occurring across industries ranging from health care to finance and beyond. A recent article in Inside Higher Ed noted that students need a computer science foundation to prepare for success later in their curriculum. Archaeologists write programs to piece together fragments of ancient ruins. Economists apply deep learning models to financial data. Linguists write programs to study statistical properties of literary works. Physicists study computational models of the universe to analyze its origins. Musicians work with synthesized sound. Biologists seek patterns in genomes. Geologists study the evolution of landscapes. Artists work with digital images. Whether one thinks that the purpose of a college education is to prepare students for the workplace or to develop foundational knowledge with lifetime benefits (or both), computer

science, in the 21st century, is fundamental. The program will cultivate the intersections that already exist within the college environment. Indeed, in addition to the physical computing technologies being used, the increased use of machine learning and analytics is changing the way that every industry conducts business. One needs to look no further than their own pocket to find a transformative device that drives communication and collaboration. In February 2019, Governor Lee said that 58 percent of all STEM jobs created in the country are in computer science fields, but only 8 percent of graduates study computer science in college. Governor Lee has made Computer Science a major component of his legislative agenda. According to the U.S. Department of Labor Bureau of Labor Statistics (BLS), the computer and information technology field is expected to grow by 22 percent from 2019-2029 — faster than the average growth rate of all occupations. By 2026, another 557,100 jobs are expected to be added within the field. Clearly, we need more students with an emphasis in computing. With the emphasis on Computer Science from the Governor's office and the expanding role of Computer Science in our everyday lives, the ICI program can help recruit, retain, graduate, and employ students that have a strong foundation in technical (computer science) and critical thinking skills (i.e., innovation) while having competency in the facets of both established and emerging disciplines (i.e., cognate areas). The ICI program will weave technology infused coursework into the deep knowledge base of cognate areas to build a 21st century degree that more effectively and efficiently addresses the challenges of a changing world.

#### **Existing programs of study at the institution**

The proposed program is not emerging from an existing minor or certificate program at Tennessee Technological University.

#### **Community and industry partnerships**

We are attaching letters of support from the following organizations:

- Highlands Economic Partnership – The Highlands Economic Partnership is a group focused on vertical workforce development in the Upper Cumberland Region. This group has representatives from K-12, vocational, community college, and higher education institutions, high tech companies ranging from organizations with local scope to national presence, and local government. The customers of the employers represented in this group range from business and finance, government, and engineering, amongst others.
- SAIC – SAIC is a company headquartered in Reston, VA with sites located all over the United States, including Cookeville and Knoxville (as well as San Diego CA, Huntsville AL, Reston VA, Fort Knox KY, and Columbia SC). SAIC is primarily a government contractor that supports a number of government agencies including the EPA, USDA, and DoD.
- Oak Ridge National Laboratory (ORNL) – ORNL is a national laboratory in Oak Ridge, TN that has a focus on research and development in support of, among other things, the Department of Energy. ORNL employs a multi-disciplinary workforce that includes people with backgrounds in computing, engineering, and science.

#### **Accreditation**

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The proposed program can be accredited through ABET's Computing Accreditation Commission (CAC) under the "General Criteria Only" option. If we choose to seek accreditation, the program would use the existing, successful ABET processes of the Department of Computer Science as a template and would seek accreditation at time of the next Computer Science ABET full reaccreditation visit (Fall 2026 or after depending on completion of the program's first graduates). This would streamline the self-study process by allowing the reuse of common material and would allow for reduced costs by using the same the evaluation team. The costs would include a Readiness Review that is required for all initial program visits in addition to the typical accreditation visit costs, resulting in a total cost of approximately \$8,000.

### **Administrative Structure**

We have designed the architecture of the Interdisciplinary Computing and Innovation (ICI) program so that students with interests originating from all colleges and divisions can have experiences that integrate computing and innovation with those interests. It is our intention that faculty from the different colleges will work in collaboration with the ICI core unit. The program will be explicitly offered by the College of Interdisciplinary Studies. However, the computing core of the program will be taught by faculty in or affiliated to the Department of Computer Science in the College of Engineering. The entrepreneurship, design thinking, and innovation core will be taught by faculty in or affiliated across interdisciplinary studies, engineering, and business. The computational cognate areas will be taught by faculty in or affiliated to the disciplines embedded in the colleges. Cognate areas can be located in any college or division. Graduates of this program will have affiliations with the degree programs that align with their cognate of choice in order to enable better alignment with the industries in which they will eventually be employed.

#### **Potential Cognate areas include:**

Agri-Business

Nursing

Project Management

Business

Sociology

Criminal Justice

Journalism

Computational Engineering

Corporate Communication

Bio-Science

Interdisciplinary Studies

Geo-Sciences

Digital Humanities

Environmental Studies

Education

#### **Benefits:**

- The ICI program recognizes the "technological" part of our university identity by integrating computing across the curriculum of the associated cognate areas.
- By affiliating students with their choice of cognate, students retain their identity within that discipline (viewing computing as a foundational skillset for that discipline) and units maintain a relationship with those students as part of their departments, enabling all of campus to share in the anticipated enrollment growth (cooperation not competition)

- Increased inter-disciplinary opportunities across campus (for students and faculty), leading to increased innovation both inside and outside the classroom.
- Provides a new option for a population of students whose needs do not match well with our existing options.

## Enrollment and Graduation Projections

Table 1 – Projected Enrollments and Graduates

Projected Enrollments and Graduates				
Year	Academic Year	Projected Total Fall Enrollment	Projected Attrition (% per year)	Projected Graduates
1	2023-2024	25	10	0
2	2024-2025	40	10	0
3	2025-2026	65	10	0
4	2026-2027	90	10	15
5	2027-2028	120	10	25

## Institutional Alignment and Demand

### Alignment with State Master Plan and institutional mission profile

The program will address the following strategic initiatives:

- TN Reconnect—Drive to 55
- Hope Scholarship—Retention
- Future Workforce Initiative—STEM
- Tennessee Technological University “Tech Tomorrow” Strategic Plan

A 2017 TN Reconnect report indicated that over 900,000 Tennesseans have some college credit but no college degree. For the state of Tennessee to meet the Drive to 55 initiative, we must take every reasonable step to keep students progressing toward the degree. The ICI Program will provide options for students and advisors while embracing TTU’s Strategic Plan to be responsive to the needs of stakeholders. Moreover, the ICI Program addresses TBR’s goal of Student Success by “fostering student persistence to degree completion.”

The ICI Program will be an efficient pathway for students to maintain scholarship eligibility (HOPE, Pell, and other scholarships). According to a recent THEC report “nearly two-thirds of the students who received the HOPE scholarship lost their awards in the second year of college”. The program will enable students to pursue a degree path that is innovative and thus save their GPA and keep their financial aid. According to a recent Forbes study, losing financial aid is the main reason students drop out of college; therefore, maintaining

scholarship eligibility is critical to student retention. ICI Program will enable students to remain in college and make progress toward their degree. Consequently, the program will have a positive impact on retention rates. TTU retention rates for first time freshmen hover around 75%, and the program can increase this percentage.

Governor Lee announced the Future Workforce Initiative to increase science, technology, engineering and mathematics (STEM) training. Governor Lee said, "The Future Workforce Initiative is a direct response to the emerging technology industry and making sure our students are first in line to be qualified for technology jobs." Governor Lee noted that "58 percent of all STEM jobs created in the country are in computing but only 8 percent of graduates study computer science in college," The ICI program will address workforce initiatives by creating partnerships that engage industry leaders, workplace managers, and business executives. The partnerships will identify gaps in the workforce and shape the ICI curriculum to provide innovative solutions to address the shortcomings.

9.3

With respect to the Tennessee Technological University Strategic Plan, we believe the program will have the following impact (TNTech Plan in italics):

*Goal 1: Education For Life. Tennessee Tech provides education that unleashes the potential and passion within our students and prepares them for successful careers and culturally enriched lives. Tech also provides educational opportunities, programs, credentials, and degrees to fuel the lifelong learning necessary for enduring achievement.*

The Program will incorporate experiential learning and workplace partnerships into the program at multiple points to create education/work connections.

*Goal 2: Innovation in all We Do. TTU innovates in all we do, embracing and deploying our technological foundation in our education, research, service, and stewardship.*

Innovation is at the core of the program. The goal is to create learning opportunities in the intersections between computing and various cognate areas. Building expertise in multiple areas will help create more career-ready, flexible graduates.

*Goal 3: Exceptional Stewardship. Tennessee Tech is committed to optimizing resources and continuously improving effectiveness, efficiency, and return on investment for students.*

Combining the resources and strengths of both the College of Engineering and the College of Interdisciplinary Studies allows for more effective use and deployment of finances and people. The program will utilize current quality resources and leverage strategic partnerships between departments/schools.

*Goal 4: Engagement for Impact. Tennessee Tech fosters partnerships with government, business, and non-profit organizations to advance economic and workforce development, create and disseminate knowledge, serve the public good, and generate cultural impact.*

Partnerships with industry/workforce connections will be central to the program. Education will be exploratory, experiential, and real-world applied. Students will work together to solve problems and apply learning.

### **Student interest**

The Computer Science BS program grew from 364 to 570 between 2016 and 2020 (growth of approximately 60%). In Fall 2021, we experienced a record enrollment in CS, with nearly 200 students selecting CS as their major. An associated *pre-major* program (Interdisciplinary Studies Interest in Computer Science) has seen 12.7% growth over the past three years to approximately 80 students. The Computer Science minor enrolled 35 students in 2020, while Computer Engineering BS has over 110 students. In the College of Business, the Business & Information Technology (BIT) program has grown 11%, while the Business Intelligence & Analytics (BIA) program has grown 19%. Both programs combined number approximately 120 students. Including graduate programs, there are nearly 1000 students (roughly 10% of the total enrollment) at Tennessee Technological University that are pursuing computing-based degrees.

The demand for computing graduates continues to grow both in Tennessee and nationwide. According to the Bureau of Labor and Statistics, nationwide it is expected that the demand for software developers will increase by 22% between 2019 and 2029. Other similar jobs such as information security analysts, are expected to see similar increases in job availability.

### **Existing programs offered at public and private Tennessee universities**

There are no computing programs in the State of Tennessee public university system that would directly compete with the unique makeup and focus of this program. There are programs that stack a computing component on to specific majors, but in those programs the major field holds the focal point. Two examples are ETSU's Geoscience major with a geospatial concentration, and the BBA with an Analytics concentration.

Among the six Locally Governed Institutions (LGIs) and the UTK system, Computer Science programs with additional components would not reach the same targeted audience. MTSU offers a Computer Science major with a Business Applications concentration. The program has a 26-hour Computer Science core, with 18 hours of Business Applications courses and 15 hours of Business courses.

Lipscomb University offers two programs that have some similarities with the ICI program. The Data Analysis major, fully online, combines a 24-hour leadership core and an 18-hour Data Science core. The program is adult-learner focused and offers traditional and

accelerated course options. The Integrated Studies major offers concentrations in Data Analytics for Leaders and Tech Management for Leaders.

**Articulation and transfer**

Since the program pairs computing with a secondary discipline, pathways associated with the secondary disciplines that the proposed program supports are likely to be acceptable for entry into the proposed program. We expect the number of supported secondary disciplines to grow over time. Therefore, the number of acceptable entry pathways should grow correspondingly. Additionally, there are a small number of community college programs that are good candidates for articulation into the proposed program as the appropriate secondary disciplines are supported. These include Medical Informatics at both Cleveland State and Roane State as well as Health Informatics at Volunteer State.

9.3

**Appendix**

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The following pages contain the letters of support from the university president as well as the companies and organizations listed in the Community and Industry section.





## Agenda Item Summary

**Date:** December 2, 2021

**Agenda Item:** Quality Assurance Funding

**Review**

**Action**

**No action required**

10.1

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**PRESENTERS:** Dr. Lori Bruce

**PURPOSE & KEY POINTS:** Dr. Bruce will provide an update on Tennessee Tech's Quality Assurance Funding.