



BOARD OF TRUSTEES MEETING

March 6, 2025

Roaden University Center, Room 282

1:30 p.m.

AGENDA

- I. Call to Order and Roll Call
- II. Recognition of Students
- III. Approval of Minutes of December 5, 2024
- IV. Student Trustee Report
- V. President's Report
- VI. Honorary Doctorate
- VII. Consent Agenda
 - A. New Academic Program Proposal (NAPP) for Master of Science (M.S.) in Agriscience Technology
 - B. New Academic Program Proposal (NAPP) for Master of Science (M.S.) in Child Life
- VIII. Audit & Business Committee Recommendations
 - A. Compensation Plan
 - B. Non-Mandatory Fees
 - C. Disclosed Project
 - D. Approval of Internal Audit Charter
- IX. Board Secretary Report
- X. Other Business
- XI. Adjournment



Agenda Item Summary

Date: March 6, 2025

Agenda Item: Recognition of Students

Review

Action

No action required

PRESENTER(S): Chair Harper

PURPOSE & KEY POINTS: We are joined today by four students that we would like to recognize:

- Sahera Abumarium -- Tech chemical engineering graduate student who won first place in her category at the American Institute of Chemical Engineers national meeting for her research on microplastics in wastewater treatment plants
- Justin Schlenkert – Tech College of Business junior who recently set three state and three national powerlifting records
- Jameson Wharton -- Tech junior and Golden Eagle Football defensive back who founded the annual “Football for the Cure” fundraiser to raise money for cancer research
- T. Wayne Williams -- Tech freshman in the School of Agriculture serving as the 2024-2025 Tennessee FFA President



BOARD OF TRUSTEES

December 5, 2024

Roaden University Center, Room 282

MINUTES

Meeting streamed live via link found on this web page:

<https://www.tntech.edu/board/board-and-board-committee-meetings.php>

AGENDA ITEM I – CALL TO ORDER

The Tennessee Tech Board of Trustees met on Thursday, December 5, 2024, in Roaden University Center Room 282. Chair Trudy Harper called the meeting to order at 1:32 p.m.

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

- Tom Jones
- Jeannette Luna
- Thomas Lynn
- Claire Myers
- Rhedona Rose
- Camron Rudd
- Johnny Stites
- Trudy Harper

- Fred Lowery – joined electronically

- Barry Wilmore - absent

A quorum was physically present. Tennessee Tech faculty, staff and members of the public were also in attendance.

Mr. Lowery confirmed that he could simultaneously hear and speak to the Board members, that he was by himself, and that he received the Board materials in advance of the meeting.

AGENDA ITEM II – SPOTLIGHT ON STUDENTS

Chair Harper stated that there were two groups of students to recognize – two teams that won championships during Fall semester. The Tennessee Tech football team won a share of the Ohio Valley Conference (OVC) regular season championship for the first time since 2011 – the 11th conference title as a member of the OVC. The women’s soccer team claimed the OVC regular season championship for the third straight time, capturing eight OVC post season honors – including the OVC Sportsmanship Award. Representatives from the soccer team included Maggie Conrad, Katie Toney, Meredith Nye and Coach Corey Boyd. The four football team captains included Tim Coutras, Dan Rickert, Aaron Swafford and Jordan Yates led by Coach Bobby Wilder.

AGENDA ITEM III – APPROVAL OF MINUTES

Chair Harper asked for approval of the minutes of the September 26, 2024, Tennessee Tech Board of Trustees meeting. Chair Harper asked if there were questions or comments regarding the minutes. There being none, Mr. Stites moved to recommend approval of the September 26, 2024, Board of Trustees minutes. Mr. Jones seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM VIII.A. - ACADEMIC & STUDENT AFFAIRS COMMITTEE RECOMMENDATION – TTU POLICY 216 (STUDENT ACADEMIC INTEGRITY)

Chair Harper stated that agenda items would be reordered to accommodate availability of a participating individual.

Ms. Rose moved to adopt Policy 216 (Student Academic Integrity) and archive Policy 217 (Student Academic Misconduct.) Dr. Luna seconded the motion. Mr. Wray called a roll call vote. The motion carried 6-2, with Mr. Rudd and Mr. Stites opposed.

AGENDA ITEM IV – SUNSET HEARING REPORT

On behalf of the Executive Committee, Chair Harper reported that when a new agency or Board is formed in the State of Tennessee, the Board is scheduled for a Sunset review process at some point after the formation and then again in subsequent years following the original review. The process is to review the Board’s performance and whether the Board should continue its existence. Tennessee Tech’s Board had the first Sunset hearing about four years ago and at that time, our Board was given a four-year extension. On October 14, 2024, Chair Harper and President Oldham presented to a Joint Committee of the House and Senate. The review went

remarkably well, and the Committee has recommended to the full Legislature that Tennessee Tech's Board of Trustees be awarded an additional five-year extension.

AGENDA ITEM V – STUDENT TRUSTEE REPORT

Ms. Myers reported that the Fall semester has been full of excitement and growth for Tennessee Tech students, faculty, and staff.

The grand opening of the Ashraf Islam Engineering Building, the first new engineering building on campus in the past 50 years, brought students, faculty and staff, alumni, and government officials together to celebrate the addition of a new state-of-the-art hub for engineering students.

The Student Government Association brought an outstanding delegation to the Tennessee Intercollegiate State Legislature (TISL) this year.

Tech students and faculty celebrated Hispanic Heritage Month this past September and October.

Our campus also recognized Native American Heritage Month during November with events hosted by Intercultural Affairs, the History Department, and Center Stage.

Also, in November, veterans were recognized throughout a week of events and celebrations, including the annual Veteran's Day ceremony and a veteran's town hall focused on informing attendees of VA benefits and connecting them to various resources in the community.

Homecoming Week was a highlight for many students and boasted a variety of friendly competitions and events. The festivities ended on a high note with a 52-10 victory over Lindenwood University in the Homecoming Football game.

Following Thanksgiving break, students are finalizing their projects and papers and preparing for finals. Various departments and clubs throughout the university are hosting de-stressors and study sessions for students.

On November 2, Tennessee Tech lost a junior conservation biology major, Ethan Haynes. His loss was felt by many. In the wake of this tragedy, we have a charge to take this sadness and loss and find a way to use it for good -- to reach out and check up on our friends, to start hard conversations about mental health, to come together and support each other as a student body.

AGENDA ITEM VI – PRESIDENT’S REPORT

President Oldham mentioned the importance of investment. As an academic institution, we look at the Return on Investment (ROI). There are three potential outcomes of investments: 1) Good investments pay off 2) Bad investments lose resources 3) Choosing to make no investment guarantees a declining return.

It is also important to define what we are trying to achieve: 1) Grow enrollment 2) Continue to improve our academic reputation 3) Achieve student success 4) Meet the growing talent demand in Tennessee 5) Improve economic impact for our communities 6) Continue to develop stronger communities which we serve.

Where are we making investments? 1) Financial stability is where it begins because we cannot invest what we don't have. The Composite Financial Index (CFI) is important to assess how we are doing.

Where are we making these investments? First, we are investing in our faculty and staff, as this Board has been heavily involved in the compensation study and the compensation plan which emerged from the study.

However, monetary investment is not all we are doing for faculty and staff. We also provide career development and advancement opportunities.

Of course, we are investing in students. One of the most notable ways is through scholarships. That has been done strategically and with much intentionality.

We are also investing in students in a variety of other ways, including through advising, counseling services and through student activities and organizations, which have been noted throughout the day. Certainly, improved facilities like the Burnett Student Recreation and Fitness Center, renovations to the University Center, Walton Park and other green spaces on campus all play roles in Tennessee Tech investing in students.

We are also investing in campus facilities. Since 2012 – roughly the past 12 years – we have expended or have expenditures currently in progress for \$750,000,000 in campus improvements. Some of these include the new Burnett Student Recreation and Fitness Center, Lab Science Commons and Stonecipher Lecture Hall, Ashraf Islam Engineering Building, Roaden University Center expansion, the Peachtree pedestrian walkways, Centennial Plaza, and the band practice field.

We also invest in new academic programs. In just the past five years, we have had 10 new academic programs approved and initiated – including the live audio engineering program, design, nuclear engineering, logistics and supply chain, etc. If we include all the concentrations, the number increases to two or three dozen.

We are investing in athletics because it is an important part of the campus. We increased the football operating budget and are already seeing results from that, the new West Side Stadium and the future Football Operations Center. We installed artificial turf and LED lighting on the baseball and softball fields. We have renovated men's and women's basketball locker rooms and added a new golf short game practice area at the golf course.

We have discussed previously the words I do not like to hear are "Tennessee Tech is a well-kept secret." That must stop. So, we have invested significantly into our communication and marketing to make sure our brand identity is more fully recognized across the entire state of Tennessee. We are making more aggressive efforts with strategic use of news stories.

We use our advertising dollars strategically. We have invested in predictive analytics to make sure we are marketing the right messages and to the right markets. We are making better use of the volume of marketing print pieces and offering more out-of-town recruitment events.

The last item to highlight is research. We continue to invest in research opportunities and growing the research enterprise on campus. We invest in additional support for graduate research assistants. We have assistance for faculty with proposal development, matching funds for research proposals, and maybe one of the biggest ways, startup funding for new faculty to help them get started with competitive research.

So, what is the return? The return can be broken down into three large categories. The present return on investment (ROI) to the state of Tennessee, an ROI to Tennessee Tech campus, and an ROI to the students. Possibly the students are most important, but they are all important.

So, Tennessee Tech currently has an economic impact annually of more than \$1,100,000,000 to the state of Tennessee. That is about a 10-to 15-fold return on the state appropriation dollars to Tennessee Tech. That is a great financial return we are giving to the state of Tennessee.

In addition to the financial return, we are producing 2000-2500 career-ready graduates every year that go straight into the workforce and help supply much-needed talent for the growing economy of Tennessee. These are typically in high demand areas, because that is the kind of graduates we produce. So, the ROI to the state of Tennessee is substantial.

The ROI to Tennessee Tech is also clear. Enrollment is up seven percent over the past three years. That translates to somewhere around \$7,000,000 of additional tuition revenue, just through enrollment growth. At this point in time, the domestic new freshman for fall 2025 applications are six percent above last year's applications and admitted students for fall 2025 are up eleven percent over the previous year. It demonstrates we are getting a return on the investment we are making in those regards.

This fall's Freshman enrollment was 2511 – the largest enrollment since 2015. The past three freshman classes have been three of the five largest freshman classes in the history of the university.

In Athletics, out of five fall sports, four finished in the top three of the Ohio Valley Conference and two of those won conference titles. We are currently first place in the Commissioner's Cup for the best overall sports program in the Ohio Valley.

We had record research funding last year of over \$46,000,000, and as has been noted, we are getting more substantial press coverage for Tennessee Tech than ever in the Nashville, Knoxville and Chattanooga markets. He stated that about half of Tennessee Tech students graduate one hundred percent debt free.

We are seeing higher graduation rates that continue to climb. Students are being offered improved career opportunities. And probably more important in the long run, although they may not realize it at the time, the value of the degree they are earning from Tennessee Tech will become more valuable with time.

In conclusion, President Oldham stated that he wanted to thank the Board for their support in helping Tennessee Tech invest, invest in the right areas, invest in the areas that are going to be the most meaningful and pay off the biggest ROI. He stated that he wants to encourage us to continue to be thoughtful and strategic about our investments and to understand that investing in the future of Tennessee Tech is not an option, it is a necessity.

Dr. Luna stated that she had two ideas for future investment: health insurance for graduate students and investing in mental health by adding additional counselors. President Oldham replied that these items are on his radar, and he had conversations earlier that day about how to move forward on things like that. He stated that the mental health issue is an important one but it is a bigger challenge than just our campus. He had an opportunity at the Governor's budget hearing to discuss this with the Governor, the Governor's staff and legislative leaders, as well. Off-campus mental health support also needs to be in place across the state of Tennessee.

As an academic institution, serving as a healthcare agency is not our primary role. We depend on outside structures to assist us with this and many times those mental health challenges outstrip our capabilities, regardless of how many counselors we might have, but we are going to do everything we can on campus to address the concern.

AGENDA ITEM VII – BOARD POLICY 009 (ACCREDITORS)

Mr. Jones moved to adopt Board Policy 009. Dr. Luna seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM IX.A. – AUDIT & BUSINESS COMMITTEE RECOMMENDATION – FY2024-25 REVISED BUDGET/ORGANIZATIONAL CHART

Mr. Stites moved to approve the 2024-25 Revised Budget and Organizational Chart. Mr. Jones seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM IX.B. – AUDIT & BUSINESS COMMITTEE RECOMMENDATION – TUITION TRANSPARENCY ACT REPORT (T.C.A. § 49-7-1604)

Mr. Stites moved to approve the Tuition Transparency Act Report for FY23-24. Mr. Jones seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM IX.C. – AUDIT & BUSINESS COMMITTEE RECOMMENDATION – DISCLOSED PROJECTS

Mr. Stites moved to approve the Disclosed Projects for the Crossville Facility Roof and Window Repairs, Whitney Avenue parking lot, and the track and field facility. Mr. Jones seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM X – BOARD SECRETARY REPORT

Mr. Wray reminded Trustees to complete their Conflict-of-Interest form and submit the completed form to Diane Smith. Because Board policy 009 (Accreditation) was approved at that meeting, he also reminded Trustees that Board policies can be accessed via Policy Tech on the Tennessee Tech webpage. Policies one through five are operational policies (e.g., Board committees, election of officers, hiring of the President, etc.) The other three – now four – Board policies are university policies, (e.g., the Accreditors policy approved today, Free Speech on Campus policy, Nondiscrimination policy, etc.) because the Legislature required those policies fall under the Board’s direction.

Chair Harper stated that Mr. Stites had requested an educational session on accounting and finance, and that session would be scheduled as availability permits.

AGENDA ITEM XI – OTHER BUSINESS

There was no other business.

AGENDA ITEM XII – ADJOURNMENT

There being no further business, the Tennessee Tech Board of Trustees meeting adjourned at 2:50 p.m.

Approved,

Lee Wray, Secretary

DRAFT



Agenda Item Summary

Date: March 6, 2025

Agenda Item: Student Trustee Report

Review Action No action required

PRESENTER(S): Trustee Claire Myers

PURPOSE & KEY POINTS: Student Trustee Claire Myers will provide a report from the student body and reflect on spring semester as a member of the Tennessee Tech Board of Trustees.



Agenda Item Summary

Date: March 6, 2025

Agenda Item: Honorary Degree

Review

Action

No action required

PRESENTER(S): President Oldham

PURPOSE & KEY POINTS: Approval is requested for awarding a honorary degree as prescribed by Tennessee Tech Policy 268: Honorary Degrees.



Office of the President

TENNESSEE TECH

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March 6, 2025

Ms. Trudy Harper, Chair
Tennessee Tech Board of Trustees

Chair Harper:

I am pleased to place in consideration for an Honorary Doctorate of Finance, Tech alumnus and former Trustee, Purna Saggurti. I provided the nomination and appointed a committee to review the nomination. This committee, chaired by Provost Bruce, unanimously recommends Mr. Saggurti for the Honorary Doctorate of Finance degree. His career is a true story of rags-to-riches as he has climbed high to be a leader in the nation's financial industry, helping save one of the country's largest financial institutions during the financial crisis of 2007.

I am proud to call Purna an alumnus of Tennessee Tech. I ask for you to award him an Honorary Doctorate of Finance. Thank you.

Sincerely

Philip B. Oldham
President

Wray, Lee

From: Wray, Lee
Sent: Friday, February 14, 2025 5:01 PM
To: Bruce, Lori; Karen Lykins; Braswell, Kevin; Payne, Thomas; Slater, Joseph; Rajabali, Mustafa; Nunez, Alma
Cc: Smith, Diane; Maynard, Bobbie
Subject: Honorary Doctorate

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Ms. Lykins,

You are the Executive Officer for the Committee on Commencements, Convocations, and Academic Ceremonies, as such, under Policy 268, I am notifying you that President Oldham is recommending Purna Saggarti for an Honorary Doctorate of Finance. The following are being appointed to the committee to act upon the recommendation –

- Provost Bruce, Chairman
- Ms. Lykins
- Dean Payne
- Dean Slater
- Dr. Rajabali
- Dr. Braswell
- Dr. Nunez

Supporting documents will be sent to you at the beginning of the week. If you support the recommendation, it will go to the Board of Trustees on March 6 for their approval. It would then be awarded at Spring Commencement when Mr. Saggarti is the Commencement speaker.

Provost Bruce, please schedule a meeting with the committee to discuss this recommendation.

Thanks to all for giving your time and service.

Wings Up!

Lee

Lee Wray
Chief of Staff/Office of the President
Secretary to the Board of Trustees
931.372.3893
E LWray@tntech.edu
www.tntech.edu





Office of the President

TENNESSEE TECH

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February 24, 2025

Ms. Karen Lykins
Executive Officer of Committees on Commencements, Convocations, and Ceremonies
Campus Box 5056

Dear Ms. Lykins:

Purna Saggurti has shaped our nation's banking and financial investments industry for the past 40 years and is certainly one of Tennessee Tech University's most accomplished alumni. Although Purna's story is inspirational, it is in many ways characteristic of Tech students. Purna came to Tech in 1980 from his home in India to pursue a master's degree in chemical engineering. Like so many Tech students, Purna came from humble circumstances but had big dreams and the work ethic to match.

After completing his master's at Tech and a brief time working with a rural West Tennessee energy start up company, he was admitted to the prestigious Wharton School of Business at the University of Pennsylvania where he earned an MBA. He later joined Merrill Lynch and quickly began his climb up the corporate ladder. During his time at Merrill Lynch, he helped lead the company through many significant challenges including the 2001 attack on the World Trade Center, the 2007 "Great Recession" and the subsequent merger with Bank of America. Suffice it to say that Purna's strong leadership during the most urgent times of financial stress in the past quarter century has been invaluable.

Purna Saggurti is vice chairman of Bank of America and chairman of Global Corporate and Investment Banking. Prior to being named to his current role, he served as the co-head of Global Corporate & Investment Banking. He is also a member of the operating committee of Bank of America. He serves on the board of the Environmental, Social and Governance Committee and was previously vice chairman of the Global Diversity & Inclusion Council for the bank.

Prior to its acquisition by Bank of America, Purna was head of Americas at Merrill Lynch, which included all investment banking coverage, mergers and acquisitions and capital markets originating in the U.S., Canada and Latin America.

Purna has advised and worked on landmark transactions for clients across the globe including Dow, Dupont, Ecolab, Engelhard, GE, Hoechst, Huntsman, Lyondell Basell, Merck, Occidental Petroleum, Potash Corp, Reliance, Tata's and Valspar.

Ms. Karen Lykins
February 24, 2025
Page Two

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He is currently a member of the executive board of the U.S.-India Strategic Partnership Forum and the board of trustees of the Smithsonian National Museum of Asian Art. Previously, he was a member of the graduate executive board of The Wharton School, was a member of the board of trustees of Tennessee Tech University and was the former chairman of the board of trustees of the John Whitehead School of Diplomacy and International Relations. Purna also was co-chairman of the finance committee for the Sustainable Energy for All initiative of the World Bank and the United Nations.

Purna holds a Bachelor of Technology degree in chemical engineering from Andhra University, a Master of Science degree in chemical engineering from Tennessee Tech University and an MBA from The Wharton School.

Purna's continued contributions to Tech have been equally significant. He was selected by former Governor Bill Haslam as a member of our inaugural board of trustees in 2017 and served with distinction through 2021. Purna also believes strongly in giving back to help the next generation follow his example by establishing a scholarship program at Tech in honor of his faculty mentor, Dr. David Yarbrough.

Purna Saggurti is exemplary in his personal and professional life. He continues to be an excellent ambassador for Tech and another great example of what every Tech grad can achieve regardless of where they start or where they come from.

I am delighted to nominate Purna Saggurti for an honorary doctorate and encourage his nomination be given every possible consideration.

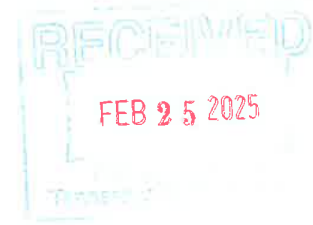
Sincerely,



Philip B. Oldham
President



Office of the Provost
TENNESSEE TECH



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To: Dr. Phil Oldham, President

From: Dr. Lori Bruce, Provost and Vice President of Academic Affairs

Subject: Honorary Doctorate Recommendation for Purna R. Saggurti

Date: February 25, 2025

An Honorary Doctorate Committee consisting of Provost Lori Bruce (Chair), VP Karen Lykins, Dean Joe Slater, Dean Tom Payne, Faculty Senate President Mustafa Rajabali, VP Kevin Braswell, Alma Nunez, and Chief of Staff Lee Wray (non-voting member) met on February 25, 2025 to discuss nomination materials and to make a recommendation for awarding Purna R. Saggurti an honorary doctorate degree.


After much discussion the committee voted unanimously in support of awarding an honorary doctorate degree to Purna R. Saggurti. Nomination materials and a copy of Policy 268 (Honorary Degrees) were available to committee members before the meeting.



Enrollment & Communication
TENNESSEE TECH

M E M O R A N D U M

TO: Dr. Philip Oldham, President

FROM: Karen Lykins, Vice President for Enrollment & Communication 

DATE: February 25, 2025

SUBJECT: Honorary degree recommendation for Purna Sagurtti

Dear President Oldham:

As Executive Officer of the Committee on Commencements, Convocations, and Academic ceremonies, I present to you a recommendation for an honorary degree as prescribed by Tennessee Tech University Policy 268: Honorary Degrees.

After reviewing and discussing nomination materials, a special committee unanimously voted to make the following recommendation to you for the Board of Trustees' consideration.

The committee recommends that Purna Sagurtti be awarded an honorary doctorate of finance.

The committee asks that you review this nomination, and that you recommend it to the Board of Trustees for approval.

Respectfully,
Karen Lykins
Executive Officer
Committee on Commencements, Convocations and Academic Ceremonies

Purna Saggurti
Honorary degree nomination material
100-word summary

Tennessee Tech alumnus Purna Saggurti is a renowned banking executive with an impact on the financial industry spanning four decades.

After earning a master's in chemical engineering from Tech, he rose to leadership at Merrill Lynch and later Bank of America, where he is now vice chair. He guided major global transactions and served on influential boards, including the Smithsonian National Museum of Asian Art and U.S.-India Strategic Partnership Forum.

A dedicated Tech supporter, Purna served on its board of trustees and established a university scholarship. His leadership and philanthropy make him a deserving candidate for an honorary doctorate.



Purna R. Saggurti

Vice Chair of Bank of America
Chairman of Global Corporate and Investment Banking

Purna Saggurti is Vice Chair of Bank of America and Chairman of Global Corporate and Investment Banking. Bank of America is the second largest bank in America with over \$100 Billion in revenues and almost \$2 Trillion in Deposits and over \$1 Trillion in Loans and Leases.

Saggurti is a member of the management committee of Bank of America.

Prior to Bank of America acquiring Merrill Lynch, Saggurti was head of Americas Investment Banking at Merrill Lynch, which included all Investment Banking coverage, Mergers & Acquisitions and Capital Markets in the U.S., Canada and Latin America.

For almost 38 years, Saggurti has advised Boards and worked on landmark strategic transactions for clients across the globe including Dow, Dupont, Ecolab, Engelhard, GE, Hoechst, Huntsman, Lyondell Basell, Merck, Occidental Petroleum, Potash Corp, Reliance, Tata's and Valspar.


Saggurti is currently Chair of the Board of Trustees of the Smithsonian National Museum of Asian Art and a member of the executive board of the U.S.- India Strategic Partnership Forum.

Previously Saggurti was a member of the Board of Trustees of the Tennessee Technological University and a member of the Graduate Executive Board of The Wharton School of the University of Pennsylvania. He was the former chairman of the Board of Trustees of the John Whitehead School of Diplomacy and International Relations. He was also the co-chairman of the Finance Committee of the Sustainable Energy for All initiative of the World Bank and the United Nations.

Saggurti holds a Bachelor of Technology degree in Chemical Engineering from Andhra University, a Master of Science degree in Chemical Engineering from Tennessee Technological University and an MBA from The Wharton School.



Purna R. Saggurti

 Vice Chairman, Bank of America, Merrill Lynch

Purna Saggurti is Vice Chairman of Bank of America and Chairman of Global Corporate and Investment Banking. Prior to being named to his current role, He served as the co-head of Global Corporate & Investment Banking.

He is a member of the operating committee of Bank of America. He is on the board of the Environmental, Social and Governance Committee and was previously vice chairman of the Global Diversity & Inclusion Council for the bank.

Prior to Bank of America acquiring Merrill Lynch, He was head of Americas at Merrill Lynch, which included all Investment Banking coverage, Mergers & Acquisitions and Capital Markets Origination in the U.S., Canada and Latin America.

For over 34 years, He has advised and worked on landmark transactions for clients across the globe including Dow, Dupont, Ecolab, Engelhard, GE, Hoechst, Huntsman, Lyondell Basell, Merck, Occidental Petroleum, Potash Corp, Reliance, Tata's and Valspar.

He is currently a member of the executive board of the **U.S.-India Strategic Partnership Forum** and the Board of Trustees of the Smithsonian National Museum of Asian Art. Previously He was a member of the Graduate Executive Board of The Wharton School, was a member of the Board of Trustees of the Tennessee Technological University and the former chairman of the Board of Trustees of the John Whitehead School of Diplomacy and International Relations. He also was co-chairman of the Finance Committee of the Sustainable Energy for All initiative of the World Bank and the United Nations.

He holds a Bachelor of Technology degree in Chemical Engineering from Andhra University, a Master of Science degree in Chemical Engineering from Tennessee Technological University and an MBA from The Wharton School.

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Purna R. Saggurti
Chairman, Global Corporate & Investment Banking

Purna R. Saggurti is Chairman of Global Corporate & Investment Banking for Bank of America Merrill Lynch. Mr. Saggurti is responsible for leading all Executive Vice Chairman, Vice Chairman and other senior bankers in Global Corporate & Investment Banking to focus on the Chief Executives and the Boards of Directors of our large and global clients. The Global Corporate and Investment Bank was around \$11.2 billion in revenues in 2010 and ranked Number 1 in the Americas and Number 2 Globally. Mr. Saggurti is on the board of the Bank of America Charitable Foundation, the Global Diversity & Inclusion Council and the Bank of America Environmental Council.

Prior to being named to his current role, Mr. Saggurti served as the co-Head of Global Investment Banking.

Previously, Mr. Saggurti was Head of Americas Origination at Merrill Lynch, which included all Investment Banking, Mergers & Acquisitions and Capital Markets Origination in the U.S, Canada and Latin America.

In the last twenty-four years, Mr. Saggurti has advised clients around the globe including those in North America, Europe, Latin America and Asia. He has worked on landmark transactions for a number of clients around the world including Dow, Dupont, Engelhard, GE, Hoechst, Huntsman, Lyondell Basell, Merck, Potash Corp and Reliance.

Mr. Saggurti holds a Bachelor of Technology degree in Chemical Engineering from Andhra University, a Master of Science degree in Chemical Engineering from Tennessee Technological University and an M.B.A. from the Wharton School in Philadelphia.

Mr. Saggurti is a Member of the Graduate Executive Board of The Wharton School, the Chairman of the Board of Overseers of the Whitehead School of Diplomacy and International Relations and a member of the Board of the US-India Business Council. He also was a member of the Council on Foreign Relations and Asia Society Joint Task Force on New Priorities in South Asia: U.S. Policy toward India, Pakistan and Afghanistan.

All Press Releases

Smithsonian's National Museum of Asian Art Announces New Board Chair, Purna R. Saggurti



Additional Appointments Include Carolyn Brehm, Janine Luke and Pamela Hyde Smith

October 10, 2023



Left to right: Carolyn Brehm, Janine Luke, Purna R. Saggurti and Pamela Hyde Smith

The Smithsonian's National Museum of Asian Art has announced its new board chair: Purna R. Saggurti, vice chair of Bank of America and chairman of Global Corporate and Investment Banking. Saggurti will lead the **board of trustees** at a pivotal moment as the museum celebrates its centennial and enters its second century.

"I am excited to work closely with Purna in this new role, and I'm grateful for his support of our museum," said the National Museum of Asian Art's director Chase F. Robinson. "Purna's leadership comes at a critical time for our institution, as we continue our transformation into a global resource for understanding Asian arts and cultures and their intersection with America."

Saggurti will be supported by the new vice chair Carolyn Brehm, founder and CEO of Brehm Global Ventures LLC. Additionally, retired U.S. diplomat Pamela Hyde Smith will continue as secretary. Janine Luke, president of Silbanc Properties, will be returning as a trustee.

"I am grateful to have such a strong group of trustees to usher the National Museum of Asian Art into a new era," Saggurti said. "The centennial celebrations, where Bank of America was a Presenting Sponsor, has been an exciting way to begin the museum's second century. I am pleased to have the opportunity to lead more innovative initiatives."

Trustees serve for four-year terms. The Smithsonian's **Board of Regents** < <https://www.si.edu/regents/members> > approved the board appointments, effective Oct. 27. The 17-member Board of Regents, consisting of the Chief Justice of the United States, the Vice President of the United States, three members of the U.S. Senate, three members of the U.S. House of Representatives, and nine citizens, is responsible for the administration of the Smithsonian.

Officers serve for two-year terms.

Prior to joining the Foreign Service, she worked in graphic design and public relations. From 2003 through 2007, Smith taught courses on public diplomacy at Georgetown University's School of Foreign Service, both at the master's and the undergraduate degree levels. From 2014 to 2020, she volunteered as a docent at the Smithsonian's National Museum of Asian Art.

Smith has served on the board of the National Museum of Asian Art since 2019. She also serves on the boards of Georgetown University's Institute for the Study of Diplomacy and the Maryland/DC Chapter of The Nature Conservancy. She has a Bachelor of Arts in art history from Wellesley College. Her languages are Romanian, Indonesian, Serbo-Croatian and French.

About the Smithsonian's National Museum of Asian Art

The Smithsonian's National Museum of Asian Art is committed to preserving, exhibiting, researching and interpreting art in ways that deepen our collective understanding of Asia and the world. Home to more than 46,000 objects, the museum stewards one of North America's largest and most comprehensive collections of Asian art, with works dating from antiquity to the present from China, Japan, Korea, South Asia, Southeast Asia and the Islamic world. Its rich holdings bring the arts of Asia into direct dialogue with an important collection of 19th- and early 20th-century American works, providing an essential platform for creative collaboration and cultural exchange between the United States, Asia and the Middle East.

Beginning with a 1906 gift that paved the way for the museum's opening in 1923, the National Museum of Asian Art is a leading resource for visitors, students and scholars in the United States and internationally. Its galleries, laboratories, archives and library are located on the National Mall in Washington, D.C., and are part of the world's largest museum complex, which typically reports more than 27 million visits each year. The museum is free and open to the public 364 days a year (closed Dec. 25), making its exhibitions, programs, learning opportunities and digital initiatives accessible to global audiences.

For Press Inquiries

PressAsia@si.edu

Phone: (202) 633-0271

Fax: (202) 633-0043

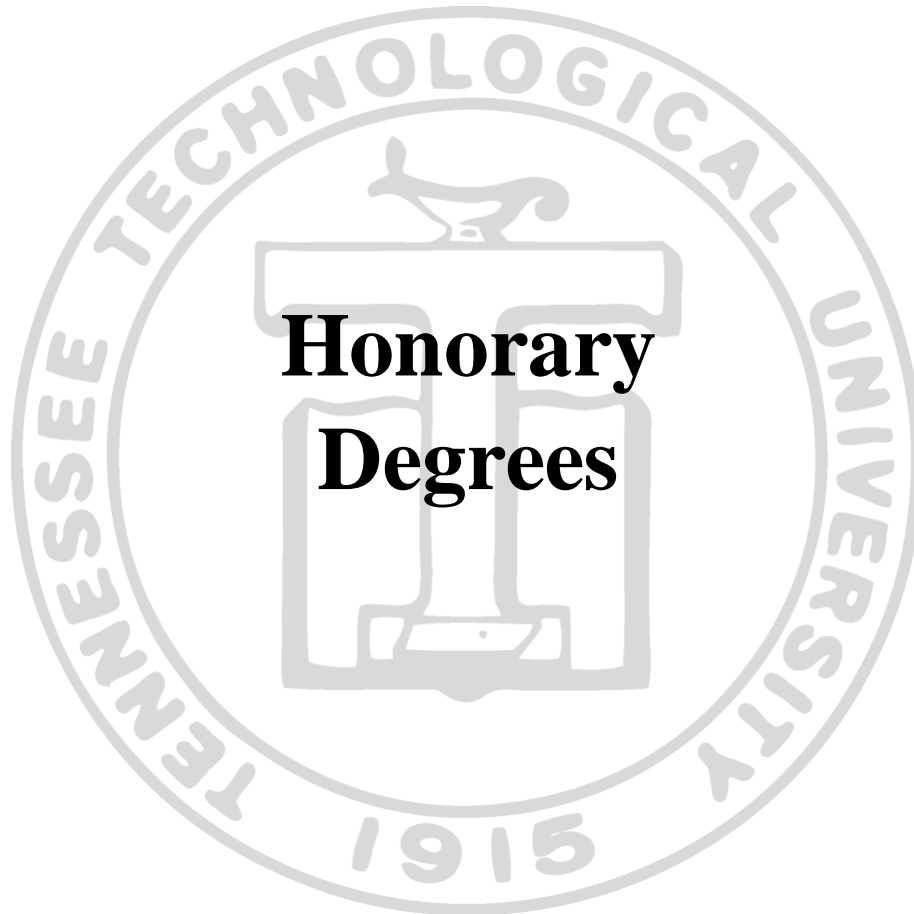
Office of Marketing and Communications

Freer Gallery of Art and Arthur M. Sackler Gallery

PO Box 37012, MRC 707

Washington, DC 20013-7012

**Tennessee Technological University
Policy No. 268**



Original Effective Date: July 1, 2018
Reviewed with No Changes: June 17, 2022

Policy No.: 268

Policy Name: Honorary Degrees

I. Purpose

The purpose of this policy is to establish procedures for awarding honorary degrees.

II. Review

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

III. Policy

A. Tennessee Tech awards honorary degrees:

1. To persons whose careers reflect sustained and superlative achievement in their professions, research, scholarship, public service, leadership, volunteerism, and/or cultural affairs as well as new frontiers of human endeavor;
2. To advance the educational missions, goals, and programs of Tennessee Tech by developing associations with persons who embody the same ideals, values, and aspirations; and
3. To inspire students, faculty, staff, administrators, alumni, and members of the local, national, and world communities to emulate such standards of excellence, integrity, and commitment to enhance the public good.

B. Criteria for Selection

1. Tennessee Tech awards an honorary degree only in exceptional circumstances.
2. Tennessee Tech will award no more than two (2) honorary degrees in any given year.
3. Current faculty, staff, and trustees are not eligible to receive an honorary degree. Faculty, staff, and trustees who have been separated from Tennessee Tech at least three (3) years are eligible.
4. Currently elected/appointed public officials and current candidates/nominees for public elective/appointed offices within the State of Tennessee are not eligible.

C. Procedures

1. Any Tennessee Tech employee may nominate an individual for an honorary degree by submitting a written request to the Executive Officer of the Committee on Commencements, Convocations, and Academic Ceremonies.
2. Tennessee Tech’s Committee on Commencements, Convocations, and Academic Ceremonies, in conjunction with the President, will establish a selection committee of no more than seven (7) members, four (4) of whom must hold faculty rank.
3. The Executive Officer of the Committee on Commencements, Convocations, and Academic Ceremonies, upon receipt of a nomination, will convene a selection committee within four (4) weeks of receiving a nomination, absent good cause.
4. The nominator must submit the following required information to the selection committee:
 - a. Letter from the nominator that focuses on personal knowledge of the nominee’s career accomplishments and reputation.
 - b. Letter from a Tennessee Tech Dean, Vice President, or President demonstrating support for the nomination.
 - c. Nomination summary of 100 words or less, restricted to outlining the nominee’s accomplishments, excluding degrees and appointments.
 - d. Dossier of no more than 25 pages, including current contact information, date and place of birth, education, employment, membership in professional societies, honors and awards, professional and public service, consulting activities, etc.
5. The nominator may submit the following optional information to the selection committee:
 - a. Supporting letters (no more than 3) from the nominee’s colleagues at Tennessee Tech.
 - b. Supporting letters (no more than 3) from the nominee’s colleagues outside of Tennessee Tech.
6. To the extent allowed by law, the selection committee’s deliberations will be confidential.
7. The Executive Office will forward any recommendations for honorary degrees to the President for review and recommendation to the Board.

8. The Board will approve or disapprove the nomination.
9. The Board's decision is final.

IV. Interpretation

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

V. Citation of Authority for Policy

T.C.A. 49-8-203(a)(1)(B)

Approved by:

Academic Council:	April 11, 2018
University Assembly:	April 18, 2018
Board of Trustees:	June 26, 2018



Agenda Item Summary

7.1

Date: March 6, 2025

Agenda Item: New Academic Program Proposal (NAPP) for M.S. in Agriscience Technology

Review

Action

No action required

PRESENTERS: Provost Bruce

PURPOSE & KEY POINTS:

The new degree program for which approval is sought is a Master of Science (M.S.) in Agriscience Technology. Faculty in the School of Agriculture in the College of Agriculture and Human Ecology are leading this proposal.

In response to increasing inquiries for a degree program emphasizing 21st-century agricultural technology, and following multiple conversations with industry leaders, the faculty in the School of Agriculture have proposed a new master's degree program in Agriscience Technology. This program will focus on technological practices in sustainable agriculture and the environmental and social principles essential to sustainable food and fiber production. The program will be the first graduate program in the School of Agriculture. The M.S. Degree in Agriscience Technology is designed to serve recent graduates with bachelor degrees in agriculture-related disciplines, as well as working professionals.

The proposed graduate program will require 30 credit hours for the thesis option or 33 credit hours for the non-thesis option. Coursework will be offered in a variety of instructional modalities - on-ground, on-line, or hybrid depending on the nature of the course.

The proposed implementation date is Fall 2025. The enrollment in the program is projected to begin with seven students in year one, growing to approximately nineteen by year five.

The School of Agriculture currently possesses the necessary equipment, library resources, and facilities for the program. An annual expense of \$8,250 is anticipated for specialized technology, software subscriptions, marketing, and travel. Revenue from tuition and fees is estimated at approximately \$62,500 in year one, increasing to \$159,200 by year five.

Tennessee Tech Internal Cover Form

Required for all proposals

Please refer to the TTU Office of the Provost website for New Programs and Program Modifications before developing a proposal. <https://www.tntech.edu/provost/new-programs>

Degree Designation or Type of Certificate: Master of Science

MS in Agriscience Technology
Formal Degree Abbreviation Title of Proposed Program to be Established or Impacted

Concentrations: _____

Action Requested:

Request to create a new MS degree program in Agriscience Technology within the School of Agriculture.

Proposed Effective Date: Fall 2025

For more information contact: Dr. James Baier / 931-372-3193
Name Telephone

Committee Approvals:

University Curriculum Committee (undergraduate programs) Approval Date: _____

Graduate School Executive Committee (graduate programs) Approval Date: 04/02/2024

Admissions and Credits Committee (if applicable) Approval Date: _____

Academic Council (if applicable) Approval Date: 04/10/2024

Approval:  / 4/16/24
Signature of Provost Date

Tennessee Tech Board of Trustees (if applicable) Approval Date: N/A

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Expedited Letter of Notification
for MS in Agriscience Technology

INSTITUTION: Tennessee Technological University, School of Agriculture

TITLE OF PROGRAM: Master of Science in Agriscience Technology

CIP CODE: 01.0308

CIP CODE TITLE: Agroecology and Sustainable Agriculture

Academic Program Liaison (APL) name and contact information

ACADEMIC PROGRAM LIAISON: Dr. Jim Baier
Interim Director, School of Agriculture
College of Agriculture and Human Ecology
931-372-3019
jbaier@tntech.edu

PROPOSED DATES FOR EXTERNAL SITE VISIT: September 2024

ESTIMATED DATE OF SUBMISSION OF EXTERNAL REVIEW REPORT TO THEC: October 2024

ESTIMATED DATE OF INSTITUTION'S RESPONSE TO EXTERNAL REVIEW: November 2024

ESTIMATED TIMELINE FOR PROPOSED PROGRAM THAT WILL SEEK PROGRAMATIC ACCREDITATION: NA, No accrediting organization

PROPOSED DATE OF INSTITUTIONAL GOVERNING BOARD'S MEETING TO CONSIDER THE PROPOSED ACADEMIC PROGRAM: December 2024

PROPOSED DATE OF TENNESSEE HIGHER EDUCATION COMMISSION MEETING TO CONSIDER THE PROPOSED ACADEMIC PROGRAM: January 2025

PROPOSED IMPLEMENTATION DATE: Fall 2025

7.1

Background and Overview

Background narrative

In 2018 TN Tech faculty in the College of Agriculture and Human Ecology began investigating the need for a new Master of Science program in **Agriscience Technology**. We began this process in response to increasing inquiries for a degree program tailored to young professionals, those currently in the workforce, and undergraduate students interested in continuing their education in agriculture. We quickly determined that there is no M.S. degree program currently offered in Tennessee focusing solely on technological practices related to sustainable agriculture and the cadre of environmental and social practices that form the foundation of a successful, sustainable food and fiber production model. After further research and multiple conversations with industry leaders, TN Tech faculty decided to broaden the scope of the proposed MS degree to include the adoption of 21st century agriscience technology linked with sustainable agriculture and environmental systems.

In recent years, there has been increased emphasis globally in development of sustainable production practices through research, adopting new technologies, and improving production practices to more efficiently produce food and fiber to meet the needs of an ever-changing population. More specifically, consumers are exhibiting an increased interest to connect with and better understand how their food was produced, processed, and marketed. Generally speaking, 21st century consumers demand that producers use more environmentally friendly farming/production practices, which is also in the best interest of the producer, so the environment can sustain production levels necessary to feed a growing population. Incorporating the use of cutting-edge technology and applied research enhances a producer's ability to grow food and fiber more sustainably while maximizing profits.

The M.S. Degree in Agriscience Technology will serve both current undergraduates and professionals already in the field as well as those seeking to advance their current positions. By embracing three broad goals outlined by the Sustainable Agriculture Research & Education (SARE) Program, the TN Tech School of Agriculture seeks to provide our graduate students with keys to the future of Agriculture. These goals, known as the *Three Pillars of Sustainability* include:

- Profit over the long term;
- Stewardship of our nation's land, air and water; and
- Quality of life for farmers, ranchers and their communities.

This degree will focus on developing graduates who are flexible, innovative, and able to solve real world problems using the latest technological advances. Graduates must be adept at applying integrative analytical skills, incorporating technology into their research programs, and being capable of working in diverse groups. This will be achieved through a multi-disciplinary approach within the School of Agriculture utilizing faculty with expertise in animal science, horticulture, soil science, geospatial technology, engineering, and agribusiness. The following program and student outcomes will serve as the road map for course development and implementation, research, and outreach:

Program Outcomes

The M.S. Degree in Agriscience Technology will...

- Develop scientists and educators who are highly qualified to uniquely address agri-environmental policies used to keep farmland in production as well as integrate farming priorities into the urban and rural interface,
- Recognize, interpret, and research agriscience practices at the farm-level, including agroecological management principles and practices used to reduce environmental degradation,
- Design, implement, and evaluate effective and impactful field experiments that address multiple agriscience issues, and
- Provide opportunities to investigate and utilize various technological advances for developing new and/or enhanced sustainable practices in food and fiber production.

Student Learning Outcomes

Graduates of this degree will:

- Understand and apply the breadth and depth of knowledge associated with their discipline.
- Design, conduct, analyze, and interpret research on important problems in the respective disciplines of sustainable agriculture.
- Communicate effectively with a diverse group of people using appropriate traditional and emerging technological media.
- Make an original contribution to their discipline.

Thesis Option

Major Field Core with Research & Thesis (courses required of all students in program)	18
Concentration, including electives or out of unit courses	12
TOTAL:	30

Non-thesis Option

Major Field Core with Research Project (courses required of all students in program)	15
Concentration, including electives or out of unit courses	18
TOTAL:	33

Coursework will be online, hybrid or on-ground. The other major field core courses will be taught on the TN Tech campus or any TN Tech farm facility.

Justification for Consideration of Expedited Policy

The purpose of the expedited approval process is to rapidly implement new academic programs to aid in workforce development to address current state needs while ensuring that the program quality, uniqueness, and institutional capacity exists. To this end, we are proposing a novel MS degree in the field of Agroecology and Sustainable Agriculture CIP Code 01.0308. This program will be unique as no other graduate programs for this discipline exist in the state of Tennessee (see Existing programs offered at public and private Tennessee universities section below). We expect this degree to train highly skilled workers in the agricultural field that will be integral to the states’ transition from conventional

agricultural systems to the new smart systems that are being implemented globally. The importance of this sector within the state is highlighted by the THEC Academic Supply and Occupational Demand Report which points out that agriculture occupies 40% of the state acreage and accounts for the state's 69,500 farming operations. Additionally, the annual University of Tennessee Boyd Center for Business and Economic Development reports that in 2015 (most recent county data) the estimated economic impact of agriculture in an 8-county region in the Upper Cumberland Region was \$1.7 billion dollars and the agriculture industry provided over 8,800 jobs in this region. In 2019 the Boyd Center reported that the statewide estimated economic impact of agriculture was \$81 billion dollars and the agriculture industry created over 342,000 jobs. Furthermore, the THEC Academic Supply and Occupational Demand Report highlights the academic programs offered by the University of Tennessee but their programs do not include a program focused on Agroecology and Sustainable Agriculture CIP Code 01.0308. As the importance of the agricultural sector will continue to increase based on a growing global population demanding a diversified range of agricultural products, there will be a need to produce these products in a more efficient and sustainable manner with reduced environmental impacts. Our proposed MS degree will produce the needed graduates required to transition the state's agricultural systems to more efficient, sustainable, environmentally friendly systems.

The Center for Agroecology & Sustainable Food Systems, a part of the University of California system, reported, "A food and farming system that exploits neither people nor resources and lasts indefinitely has come to be called sustainable agriculture". While this concept is familiar and even supported in many American agricultural universities, it hasn't always been so. For decades, issues such as soil erosion, exploitative working conditions, pest resistance to pesticides, and small farm viability were brushed aside as the price of progress in the industrialized agri-food system (Allen & Brown, 2012).

Currently, there is a movement across the United States to produce food using sustainable practices and improving stewardship of our natural resources, all the while meeting the requirements of an ever-growing population that is demanding to know where and how their food was produced.

In March of 2014, the Coalition for a Sustainable Agriculture Workforce (CSAW) reported the need to double the global food supply to satisfy the needs for a growing population which has led life sciences and agricultural companies to increase their numbers of scientists and employees. According to the CSAW Executive Summary, "we must prepare scientists to bring new and revolutionary approaches to agroecosystem management". Additionally, the executive summary states that if current trends continue, the agricultural workforce will lack the highly trained agronomists, soil scientists, plant breeders, and weed scientists necessary to make the technical advances essential to meet future production and sustainability challenges (CSAW, 2018).

Lastly, the government projects a 7% growth in jobs for Agricultural and Food Scientists for the period 2016 to 2026 nationally. This growth is attributed primarily to a projected need in the future for 1) crop production in food and raw materials, 2) sustainable crop production techniques to preserve environmental resources, and 3) innovation and techniques in the field of agriculture and related fields.

This new M.S. Degree in Agriscience Technology will meet current industry and consumer needs while preparing future producers to meet the challenge of providing food and fiber for an ever-growing world population. Additionally, these graduates will be required to meet these needs with limited and/or declining natural resources (soil, water, organic matter, etc.), necessitating the implementation of new technologies and production practices to continue to provide food and fiber for a growing world. With the addition of two new faculty in 2021, our administration and faculty believe it is time to move forward with the M.S. Degree in Agriscience Technology.

Tennessee’s Upper Cumberland Region is one of the most geographically diverse areas in the southeastern United States and is centrally located between three of the state’s four major metropolitan areas (Knoxville, Nashville and Chattanooga). Although the fourteen counties comprising the Upper Cumberland (Cannon, Clay, Cumberland, DeKalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren and White) boast five community colleges, three Tennessee Technology Centers and Tennessee Technological University, there is still a cry for a stronger focus on STEM (Science, Technology, Engineering, Mathematics) disciplines, skilled trades, and technical training. Agricultural sciences have long been considered part of the STEM disciplines.

Existing programs of study at the institution

The proposed program is not emerging from an existing minor, certificate, or other academic program.

Community and industry partnerships

Letters are attached to the end of the document:

- Tony Womack, Deputy Commissioner, TN Department of Agriculture
- Scott Bohanon, Education and Training Specialist, Tennessee Farmers' Cooperative
- Dale Barnett, Executive Director, Tennessee Poultry Association
- Wendell Stockton, Director of Food Safety & Sustainability, Generation Farms

Accreditation

There are currently no accrediting bodies for CIP CODE 01.0308 Agroecology and Sustainable Agriculture. Several entities, such as ASABE, accredit some of the subdisciplines represented in the program but only at the undergraduate level.

Administrative Structure

The proposed MS in Agriscience Technology will be housed in the School of Agriculture within the College of Agriculture and Human Ecology. The administrative structure within the college is as follows: The Dean of Agriculture and Human Ecology administers activities within the college while the Director of the School of Agriculture administers activities within the school. To aid in administration of the MS degree, Dr. Jim Baier will serve as the Graduate Program Coordinator and will be allowed release time from teaching to compensate for those responsibilities.

Enrollment and Graduation Projections

The school of Agriculture currently has eight faculty with an average research obligation of approximately 30%. Three additional faculty are to be hired in the 2024-2025 academic year that will contribute to the program, in the beginning, we expect initial student numbers to be limited by faculty

effort at a maximum of 7-8 students. It is projected that the attrition rate will be 2 students based on an expected 80% annual retention rate. Most full-time students are expected to enroll in the thesis option and conduct research projects that require extensive faculty research effort. Most part-time students are expected to consist of non-traditional students that are already employed and seeking to improve their career status by earning a graduate degree. Thus, the part time students are expected to choose the non-thesis degree, requiring more academic advisement but less faculty research. Duration of part-time degrees are expected to be 3 years. The projected annual graduation rate starting at the conclusion of year 5 is 7 and expected to continue at that rate until faculty effort toward research increases.

Table 1 Projected Enrollments and Graduates

Projected Enrollments and Graduates						
Year	Academic Year	Projected Total Full Time Enrollment	Projected Total Part Time Enrollment	Projected Total Enrollment	Projected Attrition	Projected Graduates
1	2025	4	3	7	2	0
2	2026	7	5	12	3	3
3	2027	8	8	16	4	4
4	2028	9	10	19	4	7
5	2029	9	10	19	5	7

Institutional Alignment and Demand

Alignment With State Master Plan and Institutional Mission Profile

Tech Tomorrow Strategic Plan

From the beginning (1915), TN Tech (then Tennessee Polytechnic Institute) included agriculture in its curriculum. The first catalog for the fledging college noted a Department of Agriculture. Since the early 1920’s, the school has evolved and now offers students both classroom and laboratory settings along with 340 acres of deeded farmland near the main campus and, a 1,200-acre farm near Livingston, TN. The undergraduate student body has continued to grow, enjoying an average of 320 students. According to previous alumni studies and a recent feasibility study (as reported in this document), our graduates have consistently noted interest in the development of a graduate program in Agriculture.

According to the Tennessee Department of Agriculture, farming and forestry not only preserve a time-honored way of life, but also fuel the state's economy. According to the United States Department of Agriculture, agricultural production generates more than \$3.5 billion annually in farm cash receipts in Tennessee (USDA, 2017). Agriculture touches the lives of Tennesseans every day through the food we eat, the fuel we pump, the clothes we wear, the wood products we use, and the land we enjoy. Employment and entrepreneurial opportunities in agriculture are projected to continue to grow, especially in specialized areas.

Professional careers requiring advanced degrees under the Career Cluster Guide (Tennessee Department of Labor) include: Environmental Sciences, Forestry and Related Sciences, Natural Resources Conservation, Management and Policy, and Veterinarian Sciences. Additional areas benefiting from advanced degrees include: Agricultural Education, Agribusiness, Soil and Agronomy Sciences, Animal Sciences, Turfgrass Management and Agricultural Engineering.

In 2018, TN Tech launched a new strategic plan – Tech Tomorrow – guided by a set of core principles: Academic excellence, community engagement, meaningful innovation, student success, supportive environment and value creation. From this foundation, the strategic plan is guided by four strategic goals: 1. Education for life, 2. Innovation in all we do, 3. Exceptional stewardship, and 4. Engagement for impact.

The M.S. degree in Agriscience Technology directly addresses two of the strategic four goals developed from the TTU Strategic Plan.

Goal 1: Education for life – Tactic Ai. Evaluate and transform programs, courses, and opportunities to incorporate experiential learning that permeates the educational process – cumulatively and systematically developing students’ career and societal readiness.

Goal 2: Innovation in all we do – Tactic Ai. Develop and implement distinct technologically focused programs.

This proposal provides obvious connections between Goals 1 and 2 and the M.S. degree in Agriscience Technology. Implementation of a graduate program not only will require faculty to stretch themselves to create and maintain a state-of-the-art curriculum, but will also serve as a catalyst for collaborative cross-disciplinary research within the School and College. Additionally, it will provide students with a cadre of experiential learning opportunities with field and laboratory research using the latest technology in global positioning systems, plant genetics, engineering and soil conservation.

Additional alignment with the Tennessee Tech mission can be found within the school’s Rural Reimagined initiative. This project seeks to contribute to the university effort to solve rural stakeholder problems through increased faculty engagement and university funding. We expect our MS program to align heavily with this initiative, as we seek to train students with cutting edge agricultural technologies and by equipping skilled agricultural graduates who will be able to return to their communities and contribute to the state’s transition from conventional farming to more advanced smart farming systems.

Tennessee Higher Education Master Plan

As stated in the Tennessee Higher Education Master Plan 2015-2025, “the state continues to acknowledge the critical need for academic programs of distinction at the graduate and professional level to fully address Tennessee’s economic development, workforce, and research needs” (TN Higher Educ. Master Plan, 2018). Additionally, as stated in the 2020 updated master plan, we must commit as a state and as a higher education enterprise to working collectively, cooperatively, and intentionally to best serve the needs of students, their families, and Tennessee’s economy (TN Higher Educ. Master Plan, 2020).

The Tennessee Higher Education in the New Economy 2020 update indicates that “emerging technologies” have partially necessitated the need for institutions of higher education to meet the fast-changing needs for new and innovative programs. The proposed MS degree in Agriscience Technology directly addresses this need as it deals with the preparation of students to solve historical and current problems with current and state-of-art technologies.

Recently, Tennessee Tech School of Agriculture received over \$2,000,000 in grant funds to develop a poultry program to provide students for career opportunities in a large and continually growing area of agriculture in the state of Tennessee. A faculty position in poultry science and a new poultry facility, which includes lab and abattoir capabilities for learning and research purposes, is essentially complete. This proposed program, Master of Science in Agriscience Technology degree, will be an integral component of the poultry program. Development of this Master’s program and future studies related to poultry science will promote partnerships between Tennessee Tech and the poultry industry through local companies like Cobb-Vantress, Aviagen, Tyson and Perdue. These partnerships will help to create a pathway for future students from undergraduate or graduate programs to a career in the poultry industry.

Research conducted in this program will focus on the use of technologies to address the issues of environmental impact, production efficiency, and long-term sustainability of agricultural enterprises. This will be achieved through a multidisciplinary approach that combines knowledge from the fields of animal science, horticulture, soil science, geospatial technology, engineering, and agribusiness. Additionally, the development of a new Agricultural Technology and Innovation Center will facilitate expertise in emerging technologies and practices like application of spatial technologies, vertical farming, or regenerative agriculture to improve efficiency of current production practices using existing resources to meet increased demand.

As Tennessee transitions from traditional agriculture to new smart systems, there is a need for skilled graduates who can facilitate adoption of practices and emerging technologies to improve environmental stewardship and increase economic output within the agriculture industry. This Master’s program will equip both conventional students who choose to continue their education, and returning students who have spent time in the agriculture industry and desire to aid in bringing agriculture in Tennessee into the 21st century. Currently, industry representatives in agriculture seek to hire graduates with both theoretical and technological expertise in areas related to precision agriculture, sustainable production and smart farming. For example, companies that serve producers like DeltAg, Land O’Lakes, John Deere and Pioneer Seeds. As agriculture is a major contributor to the economy of Tennessee with an estimated \$81 billion and over 342,000 jobs (University of Tennessee Boyd Center for Business), this program is a necessary addition to meet the needs of Tennessee’s future economy.

One of the goals of the Tennessee Higher Education Master Plan is completion of stacked credentials. The degree will not only enhance the initiative to complete BS degrees among our students, it will provide an opportunity to move seamlessly from the BS into the MS degree. Several senior level courses in concentrations within the Agriculture and Animal Science degrees in the School of Agriculture will

allow students to obtain undergraduate- and graduate-level credit in their chosen concentration and in the MS program.

Student interest

In a 2018 study, current students in the School of Agriculture as well as alumni of the School were surveyed to determine their interest in a new MS degree program Agriscience Technology.

Of the 680 alumni surveyed, 128 responded for an 18.2% response rate. Approximately 30% of alumni respondents signaled high interest in the start-up of this program offering; almost 22% of TTU alumni desire to enroll in the program immediately if the program commenced in the Fall. Eighty-five percent of alumni indicated interest in part-time program attendance. Fifty-three percent of employed alumni respondents expressed at least some employer benefits and/or support if enrolled in the proposed program, with 11% revealing a requirement or encouragement by employers for a degree in sustainable agriculture.

Of the 320 undergraduate students surveyed, 75 responded for a 23.44% response rate. Twenty-one percent of current undergraduate respondents were very interested in the program, and 65% moderately interested. Many of the undergraduate students estimated enrolling in the program within 2-4 years of the program commencement. Sixty-three percent of undergraduate participants indicated they would attend full time.

Survey results and anecdotal evidence indicate the likelihood that the number of interested graduates from the School of Agriculture will be sufficient to sustain the graduate program. A conservative estimate of enrollment numbers is reported in Table 1 to allow sufficient time to build the program in subsequent years and the total enrollment is expected to increase.

Existing programs offered at public and private Tennessee universities

Current THEC Academic Programs Inventory

<https://thec.ppr.tn.gov/THECSIS/Research/Research.aspx?TabID=API%20Search> reported ten master level degree programs using the various Federal CIP codes reflecting agriculture (01.000 through 01.1202). None of these programs (Table 4) duplicates the programs proposed by Tennessee Tech as our proposed program is in Agroecology and Sustainable Agriculture CIP Code: 01.0308.

Table 2 Current Master's Degree Programs in Tennessee August 2018

Institution	Degree title/major	Degree Designation	Federal CIP
Tennessee State University	Agricultural Science	MS	01.01.0000.00
University of Tennessee, Martin	Agriculture & Natural Resource Systems Management	MS	01.01.0101.00
University of Tennessee, Knoxville	Agricultural Economics	MS	01.01.0103.00

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Middle Tennessee State University	Horse Science	MS	01.01.0307.00
University of Tennessee, Knoxville	Agricultural Leadership, Education & Communication	MS	01.01.0801.00
University of Tennessee, Knoxville	Animal Science	MS	01.01.0901.00
University of Tennessee, Knoxville	Food Science & Technology	MS	01.01.1001.00
University of Tennessee, Knoxville	Plant Sciences	MS	01.01.1101.01
University of Tennessee, Knoxville	Entomology & Plant Pathology	MS	01.01.1105.00
University of Tennessee, Knoxville	Environmental & Soil Science	MS	01.01.1202.00

Table 3 Enrollment at TN Universities Represented in Table 2

CIP	Major	University	Fall 21	Fall 20	Fall 19
01.0000	Agricultural Science	Tennessee State University	44	59	61
1.0307	Horse Science	Middle Tennessee State University	7	6	6
1.0101	Agriculture & Natural Resource Systems Mgmt	University of Tennessee, Martin	45	39	31
	Herbert College of Agriculture - Graduate Enrollment*	University of Tennessee, Knoxville*	--	245	263

Note. * UTK does not publish detailed program enrollment data on its public website.

Table 4 Degrees Conferred at TN Universities Represented in Table 2

CIP	University	Degree Title and Designation	2019-20	2018-19	2017-18
01.0000	Tennessee State University	Agricultural Science, MS	16	12	18
01.0307	Middle Tennessee State University	Horse Science, MS	2	3	7
01.0101	University of Tennessee, Martin	Agriculture & Natural Resource Systems Management, MS	11	9	12
01.0103	University of Tennessee, Knoxville	Agricultural Economics, MS	8	10	7

01.0801	University of Tennessee, Knoxville	Agricultural Leadership, Education & Communication, MS	--	21	16
01.0901	University of Tennessee, Knoxville	Animal Science, MS	3	11	6
01.1001	University of Tennessee, Knoxville	Food Science & Technology, MS	5	13	3
01.1101 & 01.1105	University of Tennessee, Knoxville	Plant Sciences, MS Entomology & Plant Pathology, MS	12	13	11
01.1202	University of Tennessee, Knoxville	Environmental & Soil Science, MS	4	1	1

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Of the above identified programs (Table 2), **none appear to offer the same educational options as this proposal.** Currently in the state of Tennessee there are graduate programs that teach siloed agricultural disciplines including animal science, plant science, and soil science. Additionally, there are programs that study environmental sciences. The Tennessee Tech Master of Science in Agriscience Technology will integrate these siloed disciplines to study the ecology of agricultural systems. We expect this degree to train highly skilled workers in the agricultural field that will be integral to the states’ transition from conventional agricultural systems to the new smart systems that are being implemented globally. These skilled graduates will be trained to assess the ecology of agricultural systems using cutting edge technologies such as drones and high through put DNA sequencing to evaluate the environmental impacts of these agricultural systems. Graduates will integrate ecological and environmental data to solve real world agricultural problems to ensure high yields and low environmental impacts. The bridging of these disciplines is unique among the graduate programs offered in Tennessee and will allow for the training of students in this emerging field.

In 2022, there are no Master of Science in agriculture degrees being offered at private colleges/universities in Tennessee

Articulation and transfer
N/A



October 14, 2021

Bruce Greene, Ph.D.
Director, School of Agriculture
Tennessee Technological University
Box 5034
Cookeville, TN 38505

Dear Dr. Greene:

I am writing to express my support and that of the Tennessee Department of Agriculture for the TTU School of Agriculture's proposal to establish a new Master of Science degree in Sustainable Agriculture.

U.S. and Tennessee increasingly rely upon the development and implementation of new technologies and research to boost farm production and efficiencies. These advancements, such as precision farming, minimum tillage, etc., not only can greatly minimize agriculture's impact but enhance our natural resources. Organic and minimal input farming practices are also helping to meet consumer demand for local, fresher products. It is critical in today's industry to be able to understand, accentuate and promote practices that accomplish both responsible management and increased profitability. TTU would be helping to fill an important and emerging need in the industry with this degree focus.

Several of TDA's own programs are aimed at helping farmers and forest landowners employ best management practices to improve water quality, prevent soil erosion and improve forest health. Our department is also engaged in assisting specialty crop producers with a focus on sustainable production. This new degree program would be helping to meet the workforce needs of our agency and others engaged with assisting producers.

Developing students' ability to problem-solve and address complex issues from a comprehensive perspective with a well-rounded knowledge base in sustainable production practices would be an asset to our industry.

Thank you for TTU's leadership in this area.

Sincerely,

A handwritten signature in black ink that reads "Tom Womack".

Tom Womack
Deputy Commissioner

Ellington Agricultural Center
440 Hogan Rd., Nashville, TN 37204
Ph. 615.837.5103
www.TN.gov/Agriculture

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TENNESSEE FARMERS COOPERATIVE
180 OLD NASHVILLE HWY.
LA VERGNE, TN 37086-1983
615-793-8011

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October 26, 2021

Dr. Bruce Greene, Director
Tennessee Tech School of Agriculture
715 Quadrangle
Oakley Hall 148
Cookeville, TN 38505

Dr. Greene,

As a campus recruiter and representative of Tennessee Farmers Cooperative Training & Education Department, I would like to pass along our company's support for the Master's Degree in Environmental Agriscience Technology at Tennessee Tech. We believe it is critical that students have the knowledge of the latest technological advancements in agriculture as well as the socioeconomic and biophysical aspects of our industry. As our farmers begin to adapt to this change and look for new technologies, we will rely heavily on recruiting informed students to help us offer those solutions.

Due to the evolution of the agriculture industry, our organization has recently revised our mission and vision statements. It is now our mission to 'provide innovative and quality solutions supporting the sustained success of our customers'. We are passionate about working closely with our farmer members to develop their current programs and procedures to make them become more profitable and efficient. We want 'to be the leader of the most innovative and financially successful agricultural cooperative system in the U.S.', and we will only be able to do that as we adapt to the growing technological needs and advancements. We believe many other companies are seeing the importance of higher degree programs with a focus in technology like the one you are trying to implement.

The need for employees who display a passion for a developing industry, visionary leadership, and moral/ethical integrity is great. Our organization also seeks employees who can work interdependently and collaboratively to help make each other, our local Co-ops, and our farmer members successful. It is the belief of Tennessee Farmers Cooperative (as a whole) that this new degree program will be able to help us meet the current need to reach our vision as we live out our mission statement of providing those innovative and quality solutions.

Cooperatively,

Scott Bohanon
Education & Training Specialist

Office: 615-793-8502
Mobile: 931-209-2373
Email: sbohanon@ourcoop.com



Dr. Bruce Greene, Director
School of Agriculture
Tennessee Tech University
Box 5034
Cookeville, TN 38505

RE: Master of Science in Environmental Agriscience Technology

Dr. Greene,

This letter is in full support of developing and implementing a new Master of Science degree program in Environmental Agriscience Technology at TN Technology University, in the School of Agriculture. This well-designed degree program will serve to train students in a very exciting area of technology and sustainability that our industry and others are increasingly seeking.

To no surprise, the environmental aspects of the agrisciences are on the forefront of all major agri-businesses and the opportunities for applied technology are only just beginning. Leading national and international poultry companies already have corporate level positions dedicated to these areas and there are increased opportunities at all levels where poultry is raised, processed and marketed.

Our industry foresees a growing need for highly qualified individuals with advanced training who will be ready to make highly significant contributions in so many ways related to this proposed degree program. Individuals with visionary leadership, that additionally have strong moral and ethical training, will be sought by not only our industry but by other supporting industries and agencies, as well.

What a great opportunity this will be for TTU to train students to fill these positions that are both needed and are rapidly being created.

Most respectfully,

Dale Barnett
Executive Director
931-434-8045
dbarnett@tnpoultry.org



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Dr. Duncan,

This letter serves as my commendation for the proposed MS degree program at TN Tech in Sustainable Agriculture. I have dedicated my career to the food industry and currently work in its origins - agriculture. Ag is evolving rapidly, and it is an exciting time to be in the field.

As a proponent of small business, I recognize it is critical to adequately prepare the next generation of family farm owners to excel in stewardship, sustainability and food safety. New FSMA rules require the next generation of farmers to be knowledgeable in Regulations, SOP's and record keeping which is best obtained through higher education.

Like many formerly family owned businesses in our country, agriculture is unfortunately being driven towards corporate ownership at a rapid pace. This is fueled by Governmental Regulations for food safety and sustainability that the family farm simply can't provide in many cases. Corporate farms and regulatory agencies are currently struggling with a shortage in competent people and we project this shortage will continue for the next several years as Universities such as TN Tech develop programs that fill the pipeline.

Personally, I recognize TN Tech as a great place for creating this program. As a parent of two Tech students I find Tech to be a cut above in providing ethical integrity and moral leadership, as an employer these are the traits I seek first.

If I can be of any service in the development or implementation of this program, please let me know.

Regards,

Wendell M. Stockton
Director of Food Safety & Sustainability

**Expedited New Academic Program Proposal
for MS in Agriscience Technology**

INSTITUTION: Tennessee Technological University, School of Agriculture

TITLE OF PROGRAM: Master of Science in Agriscience Technology

CIP CODE: 01.0308

CIP CODE TITLE: Agroecology and Sustainable Agriculture

ACADEMIC PROGRAM LIAISON (APL) NAME AND CONTACT INFORMATION

ACADEMIC PROGRAM LIAISON: Dr. Jim Baier
Interim Director, School of Agriculture
College of Agriculture and Human Ecology
931-372-3019
jbaier@tntech.edu

PROPOSED DATES FOR EXTERNAL SITE VISIT: September 2024

ESTIMATED DATE OF SUBMISSION OF EXTERNAL REVIEW REPORT TO THEC: October 2024

ESTIMATED DATE OF INSTITUTION'S RESPONSE TO EXTERNAL REVIEW: November 2024

ESTIMATED TIMELINE FOR PROPOSED PROGRAM THAT WILL SEEK PROGRAMATIC ACCREDITATION: Not Applicable

PROPOSED DATE OF INSTITUTIONAL GOVERNING BOARD'S MEETING TO CONSIDER THE PROPOSED ACADEMIC PROGRAM: December 2024

PROPOSED DATE OF TENNESSEE HIGHER EDUCATION COMMISSION MEETING TO CONSIDER THE PROPOSED ACADEMIC PROGRAM: January 2025

PROPOSED IMPLEMENTATION DATE: Fall 2025

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Overview

Background narrative

Upon further consideration for a new Master of Science program that encompasses all aspects of agriculture and technology, it was determined to shorten the program name to **Master of Science in Agriscience Technology**. Agriscience Technology inherently incorporates applying environmentally friendly farming/production practices such as applying precision agriculture methods to sustainable agriculture production.

Curriculum

Catalog Description

The M.S. Degree in Agriscience Technology degree will focus on developing graduates who are flexible, innovative, and able to solve real world problems using the latest technological advances. Graduates must be adept at applying integrative analytical skills, incorporating technology into their research programs, and being capable of working in diverse groups. This will be achieved through a multi-disciplinary approach within the School of Agriculture utilizing faculty with expertise in animal science, horticulture, soil science, geospatial technology, engineering, and agribusiness. The following program and student outcomes will serve as the road map for course development and implementation, research, and outreach:

Program Outcomes

The M.S. Degree in Agriscience Technology will...

- develop scientists and educators who are highly qualified to uniquely address agri-environmental policies used to keep farmland in production as well as integrate farming priorities into the urban and rural interface,
- recognize, interpret, and research agriscience practices at the farm-level, including agroecological management principles and practices used to reduce environmental degradation,
- design, implement, and evaluate effective and impactful field experiments that address multiple agriscience issues, and
- provide opportunities to investigate and utilize various technological advances for developing new and/or enhanced sustainable practices in food and fiber production.

Student Learning Outcomes

Graduates of this degree will:

- Understand and apply the breadth and depth of knowledge associated with their discipline.
- Design, conduct, analyze, and interpret research on important problems in the respective disciplines of sustainable agriculture.
- Communicate effectively with a diverse group of people using appropriate traditional and emerging technological media.
- Make an original contribution to their discipline.

Academic Program Requirements

The MS in Agriscience Technology will provide graduate course work to agricultural students across multidisciplinary platforms. The following tables show the program requirements, including existing and new courses (Appendix I).

Table 5. MS of Agriscience Technology (Thesis Option)

Prefix	Class #	Course Title	CR HR
AGR	6010	Agroecology	3
AGR	6100	Foundations of Sustainable Ag in Modern Society	3
AGR	6120/6121	Agriscience Technology Colloquium I & II (1/yr)	2
AGR	6300	Research Methods for Agriscience Technology	4
AGR	6990	Research and Thesis	6
Agriscience Technology Core			18
Courses to be selected by advisory committee			12
Total Hours			30

Table 6. MS of Agriscience Technology (Non-Thesis Option)

Prefix	Class #	Course Title	CR HR
AGR	6010	Agroecology	3
AGR	6100	Foundations of Sustainable Ag in Modern Society	3
AGR	6120/6121	Agriscience Technology Colloquium I & II (1/yr)	2
AGR	6300	Research Methods for Agriscience Technology	4
AGR	6960	Special Topics in Agriscience Technology	3
Agriscience Technology Core			15
Courses to be selected by advisory committee			18
Total Hours			33

The Graduate Advisory Committee for each student will work with the student to select courses beyond the required Agriscience Technology Core courses. This selection is primarily based on the research focus of the student's thesis or the topics of their special project (non-thesis option). The Chair of the Advisory Committee, who will meet and discuss with the student, plays a key role in determining the composition of the courses. Details of the Graduate Advisory Committee's responsibilities are described on page 35.

Existing and New Courses

Table 7. Course Title and Status

Course Title	Status	Credit Hours
AGRN 5100 Weed Science	Existing	3
AGRN 5110 Forage Crops Production & Management	Existing	3
AGRN 5120 Crop Improvement	Existing	3
AGRN 5210 Soil Fertility & Fertilizers	Existing	3
AGRN 5220 Environmental Soil Chemistry	Existing	3

AGRN 5230 Soil Classification	Existing	3
AGRN 5940 Agronomy Topics	Existing	1 - 4
AGRN 5945 Soil Science Topics	Existing	1 - 4
AGHT 5940 Horticulture Topics	Existing	1 - 4
AGED 5200 Methods & Techniques of Teaching in Agricultural & Extension Education	Existing	3
AGED 5940 Agricultural Education Topics	Existing	1 - 4
AGR 5890 Meeting the Challenges of a Diverse Workplace (online)	Existing	3
AGR 6010 Agroecology	New	3
AGR 6100 Foundations of Sustainable Ag in Modern Society	New	3
AGR 6120 Agriscience Technology Colloquium I	New	1
AGR 6121 Agriscience Technology Colloquium II	New	1
AGR 6300 Research Methods for Agriscience Technology	New	4
AGR 6960 Special Topics in Agriscience Technology	New	1 - 4
AGR 6990 Research and Thesis	New	1 - 9
AGET 5220 Agricultural Machinery & Tractors	Existing	3
AGET 5510 Agricultural Remote Sensing	Existing	3
AGET 5520 Agricultural Spatial Technology II	Existing	3
AGET 5540 Advanced GIS for Ag & Natural Resources	Existing	3
AGET 5610 Greenhouse Structures and Landscape Equipment	Existing	3
AGET 5620 Agricultural Structures	Existing	3
AGET 5720 Agricultural Processing	Existing	3
AGET 5940 Agricultural Engineering Technology Topics	Existing	1 - 3
AGET 6200 Smart Farming Technology	New	3
AGBE 5110 Agricultural Futures Marketing and Options	Existing	3
AGBE 5120 Environmental & Natural Resource Economics	Existing	3
AGBE 5130 Agricultural Policy	Existing	3
AGBE 5200 Agribusiness Statistics	Existing	3
AGBE 5210 Ag & Biological Statistics	Existing	3
AGBE 5940 Agribusiness Economics Topics	Existing	1 - 4
ANS 5940 Animal Science Topics	Existing	1 - 4
EVSA 6010 Environmental Agriculture	Existing	3
EVSA 7010 Crop Environmental Interaction	Existing	3
EVSA 7030 One Health: Principles and Applications	Existing	3
EVSA 7970 Topics in Environmental Agriculture	Existing	1 - 4
EVSA 7990 Research and Dissertation	Existing	1 - 9
EVSB 6010 Environmental Biology	Existing	3
EVSC 6010 Environmental Chemistry	Existing	3
EVSG 6010 Environmental Geology	Existing	3
EVSS 6010 Environmental Social Policy	Existing	3

AGRN 5100 Weed Science: Plant and seed identification, and growth habits and dissemination of weeds. Biological, cultural, and chemical methods of control in the integrated pest management (IPM) concept. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5120 Crop Improvement: Objectives, genetic principles, and methods of crop improvement by conventional and genetic engineering methods. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5110 Forage Crops Production and Management: Botany and classification, soil and climatic requirements, species adaptation, establishment and management of grasses and legumes for silage, hay, and temporary, permanent, and rotational pastures for ruminants, swine, and horses. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5210 Soil Fertility & Fertilizers: Properties of soils in relation to plant nutrition; fertilizer materials and their relationship to soil fertility. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5220 Environmental Soil Chemistry: Study of chemical composition of natural and anthropogenic material in soil and their reactions and movement in the soil environment. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5230 Soil Classification: Soil formation, morphology, and classification; methods of soil survey, and detailed mapping of an assigned area. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5940 Agronomy Topics: Special study in an approved area of agronomy under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5945 Soil Science Topics: Special study in an approve area of soil science under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGRN 5940 Horticulture Topics: Special study in an approved area of horticulture under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGED 5200 Methods and Techniques-Tch Ag & Ext Ed: Theory and practice in directing learning activities. Planning and delivering instruction to formal and informal groups in Agricultural and Extension Education. Preparing instructional materials. Using instructional technology. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGED 5940 Agricultural Ed Topics: Special study in an approved area of Agricultural Education under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGR 5890 Meeting Challenges in a Diverse Workplace: This course is designed as an upper division, work-world preparation course. As students are ready to leave the relative safety of the cocooned worlds of their chosen disciplines, this course provides practical tools and information necessary to

succeed in a diverse and changing world of work. By combining interactive learning, current and relevant readings, and key presenters the course will help completers integrate more smoothly into the next phase of their lives.

AGR 6010 Agroecology: This course is designed to introduce various topics of agroecology including traditional and organic farming, plant and animal production, pest management, and sustainable practices found regionally, nationally, and globally.

AGR 6100 Foundations of Sustainable Agriculture in Modern Society: A baseline view of Sustainable Agriculture and its effect on marketing, community vitality, ecological insect and weed management, grazing, conservation tillage, cover crops, crop, livestock and landscape diversity, nutrient management of soils, on-farm energy conservation and production from a whole farm perspective.

AGR 6120/6121 Agriscience Technology Colloquium: Colloquium is a weekly forum for students, faculty, and other interested members of the TN Tech community to engage with speakers on sustainable agriculture topics. Colloquium provides students an opportunity to learn about the areas that impact the study of agricultural sustainability and to engage with multiple stakeholders in the study, business, and practice surrounding sustainable agriculture.

AGR 6300 Research Methods for Agriscience Technology: Discussion of hypotheses testing, appropriate design of agricultural and natural resource experiments to derive desired inference from results, and statistical designs for analysis of discrete and continuous data.

AGR 6960 Special Topics in Agriscience Technology: Seminar or lecture course on a selected topic, issue, or interest area relevant to agriscience technology. Course may be repeated for credit under a different subtitle, up to four hours of credit.

AGR 6990 Research and Thesis: This course is for Master's students to create a Master's thesis project and to see it through to the first draft. Students will work with their committee to make any necessary revisions to the thesis proposal and produce the first draft of the thesis. Students will work one-on-one with their thesis advisor to create a plan for communication throughout the process of completing the Master's thesis.

AGET 5220 Agri Machinery/Tractors: Principles of operation, selection, and economic utilization of agricultural power units and equipment. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 5510 Agricultural Remote Sensing: This course will teach the fundamentals of remote sensing concepts and software used in agricultural, environmental, and natural resource applications. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 5520 Agricultural Spatial Tech II: Principles and applications of geospatial technologies supporting precision agriculture/farming and planning for natural resource data management. Global positioning system (GPS), geographic information system (GIS), remote sensing (RS), yield monitoring and mapping, Internet information access, and computer software for management decisions.

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AGET 5540 Adv GIS for Ag & Natural Resources: This course will teach advanced techniques using Geographic Information System (GIS) concepts, equipment, and software used in agricultural, environmental, and natural resource applications.

AGET 5610 Greenhouse Structures and Landscape Equipment: Selection, design, construction, and operation of greenhouse structures and related nursery and landscaping equipment. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 5620 Agricultural Structures: Planning; drawing; materials; principles of construction with respect to arrangement, location, and environmental control; plan reading. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 5720 Agricultural Processing: Managing value-added agricultural products through the application of engineering principles to fluid flow, electrical controls, refrigeration, heat transfer, drying, and hydraulic systems. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 5940 Agricultural Engineering Technology Topics: Special study in an approved area of agricultural engineering technology under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGET 6200 Smart Farming Technology: This course applies engineering technology to agricultural production and is a vital component to the technology revolution. The course is designed on the concept of smart agricultural machines and operations which is embedded with sensors – that are connected to the internet, requires the understanding of embedded electronics, software, sensors, network, and data analytics.

AGBE 5110 Agricultural Futures Marketing and Options: Understanding the use of futures market contracts and options to limit risk exposure to producers and agribusiness firms. The study of market price determination, forecasting basis, technical analysis and on actual trading of futures and options through market simulation programs will be addressed.

AGBE 5120 Environmental and Natural Resource Economics: Issues and policies involving pollution, depletable and renewable resources, and sustainable development. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGBE 5130 Agricultural Policy: Rural and urban values, farm problems, relationship of agriculture to public policy, policy vs. programs, and appraisal of program results.

AGBE 5200 Agribusiness Statistics: Sampling, probability, distributions, statistical tests, analysis of variance, regressions, and interpretation of data as related to agricultural business.

AGBE 5210 Ag & Biological Statistics: Sampling, probability, distributions, statistical tests, analysis of variance, regression, interpretation of data. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

AGBE 5940 Agribusiness Economics Topics: Special study in an approved area of agribusiness economics under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

ANS 5940 Animal Science Topics: Special study in an approved area of animal science under the supervision of a member of the School of Agriculture faculty. Students enrolled in the 5000-level course will be required to complete additional work as stated in the syllabus.

EVSA 6010 Environmental Agriculture: Provides a summary of the actual and/or relative environmental impacts of existing and emerging agricultural production technologies.

EVSA 7010 Crop Environmental Interaction: Understanding of how crops interact with the major environmental factors.

EVSA 7030 One Health: Principles & Appl.: Prerequisite: BIOL 1020/ANS 1200 and BIOL 3200 and instructor consent. This course will focus on understanding and appreciation of the links among human, animal, and ecosystem health. Moreover, the importance of and commitment to working together to address health challenges will also be discussed. The need for collaboration in areas of education/teaching, research and community service both locally, nationally, and globally will be highlighted, thus providing the foundation for achieving One Health goals and objectives.

EVSA 7970 Topics in Environmental Ag: Prerequisite: Full standing in the Environmental Sciences Ph.D. program or consent of instructor. Timely topics in environmental agriculture. Course may be taken for credit more than once for a maximum of eight (8) credit hours.

EVSA 7990 Research and Thesis: This course is for students to create a thesis project and to see it through to the first draft. Students will work with their committee to make any necessary revisions to the thesis proposal and produce the first draft of the thesis. Students will work one-on-one with their thesis advisor to create a plan for communication throughout the process of completing the thesis.

EVSB 6010 Environmental Biology: Biological concepts, community and ecosystem structure and function, population biology, water pollution, land and wildlife resources, endangered and threatened species, resource management, human impact, and environmental economics. This course cannot be taken for credit toward graduation by students with a degree or concentration in biology or wildlife and fisheries sciences.

EVSC 6010 Environmental Chemistry: This is a broad-based course applying the fundamentals of chemistry to the environment. This course cannot be taken for credit toward graduation by students with a concentration in chemistry.

EVSG 6010 Environmental Geology: Introduction to geology and the application of geologic knowledge to issues and potential solutions of problems arising from the interaction of human activities and natural earth processes.

EVSS 6010 Environmental Social Policy: Social, political, legal and scientific issues that influence environmental policy decisions.

Program of Study

The MS in Agriscience Technology will provide graduate course work to two target audiences: (1) students who seek a MS Degree through research and thesis and (2) students who seek to be working professionals and desire a non-thesis MS Degree. The following table shows the program requirements, including existing and new courses.

Table 8. Potential Course Schedule for an Agriscience Technology Student with a Fall Start Date.

MS Degree (Thesis)			MS Degree (Non-Thesis)		
Fall 1 Courses		Cr. Hr.	Fall 1 Courses		Cr. Hr.
AGRN 5210	Soil Fertility	3	AGRN 5210	Soil Fertility	3
AGR 6010	Agroecology	3	AGR 6010	Agroecology	3
AGR 6300	Res Meth for Agri Tech.	4	AGR 6300	Research Meth for Agri Tech.	4
Spring 1 Courses			Spring 1 Courses		
AGR 6100	Found. Sust. Ag	3	AGET 6200	Smart Farming Tech	3
AGR 6120	Colloquium I	1	AGR 6120	Colloquium I	1
AGET 6200	Smart Farming Tech	3	AGR 6100	Found. Sust. Ag	3
			EVSS 6010	Environmental Social Policy	3
Summer 1			Summer 1		
AGR 6990	Research & Thesis	6	AGR 6960	Special Topics in Agri Tech	3
Fall 2 Courses			Fall 3 Courses		
AGRN 5120	Crop Improvement	3	AGET 5520	Agricultural Spatial Tech II	3
EVSA 6010	Environ. Agriculture	3	EVSA 6010	Environmental Agriculture	3
			AGRN 5120	Crop Improvement	3
Spring 2 Courses			Spring 2 Courses		
AGR 6121	Colloquium II	1	AGR 6121	Colloquium II	1
		30			33

Assessment and Evaluation

Student achievement and academic performance will be tracked over time via admissions criteria (annually), key course grades (each semester), and defense results (each semester). Annual student program evaluations will be conducted by the school director via an interview with each student to ensure student voices are heard regularly in a formal manner that directly supports program quality. The

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feedback is used as formative evaluation to better understand program areas of strength and needs for improvement.

Institutional Effectiveness (IE) reporting will be conducted annually by the Director of the School of Agriculture. This will be used for SACSCOC reporting and provides both annual and longitudinal program data and incorporates specified program goals and student learning outcomes and associated assessment thresholds to ensure program quality.

IDEA (Individual Development and Educational Assessment) evaluations are used at higher education institutions nationwide and Tennessee Tech has utilized the IDEA evaluation for over 20 years as part of an assessment process to understand and improve teaching and learning on campus. IDEA has provided Tennessee Tech University with a tool that evaluates curriculum and faculty efficacy with respect to program goals and student learning outcomes, provides longitudinal data, and can be paired with other assessments for a holistic understanding of program quality. Course reports received by faculty provide information on the extent to which students perceived progress on the identified educational objectives. These scores can be compared to an institutional norm, a departmental norm and a norm composed from similar courses in the faculty members' respective fields at other institutions.

The Tennessee Higher Education Commission requires a rigorous program review every five years for programs not otherwise accredited. The Director of the School of Agriculture and program faculty are responsible for collecting and analyzing data and initiating proposed changes based on the data as well as tracking the impact of any program changes.

Students

Academic Standards

Admission, retention and graduation standards will follow Tennessee Tech Graduate School standards. Per Tennessee Tech's College of Graduate Studies, [admission to the College of Graduate Studies](#) is open to anyone holding a bachelor's or master's degree from an accredited college or university. A foreign degree must be equivalent to a U.S. Bachelor's degree and must be accredited by its regional or national accreditation agency or Ministry of Higher Education.

Admission

Students are admitted to Tennessee Tech University through a cooperative effort of the College of Graduate Studies and the departments, colleges, and schools of the University. When the Graduate College receives the student's application material, an official file is established. The department then reviews the application file and makes a recommendation to the Graduate College. The Graduate College notifies applicants as soon as a decision has been reached.

An applicant for admission to the MS in Agriscience Technology program offered by the School of Agriculture is expected to have earned a BS degree from an approved program, or its equivalent. Admission is decided based on a multi-parameter criterion that can include the following items to be evaluated by the School of Agriculture:

1. Undergraduate GPA of at least 3.0 on a 4.0 scale,

2. Applicants with an undergraduate GPA less than 3.0 and an application packet (including a statement of purpose and letter of recommendation) that does not demonstrate a strong justification for admission may be required to take the general portion of the GRE General Test (GRE). To be admitted to full standing an applicant must score at least 300 (Quantitative and Verbal combined) on the GRE General Test, and at least 3.5 on the Analytical Writing portion. An applicant with an undergraduate GPA of less than 3.0 who does not submit GRE scores, or whose scores do not meet the requirements, may still be considered for admission, if the applicant has demonstrated outstanding potential for advanced study and research through research or work experience. Applicants with an undergraduate GPA greater than 3.0 may submit GRE scores, but the GRE is not required.
3. Official transcripts from all previously attended colleges or universities
4. Three (3) letters of recommendation that demonstrate strong evidence for success in the graduate program.
5. Resume/CV
6. Statement of Purpose
7. Availability of appropriate faculty to serve as research advisor(s).
8. International students must score at least 550 (213 computer-based or 79 internet-based) on the TOEFL or a minimum base score of 6.0 on the IELTS.

Based on the level of satisfaction of the above criterion, the School of Agriculture will either recommend admission to Full Standing, Provisional Standing, or Special Standing, or deny admission. Standing status may be changed to Full Standing after the student satisfies the requirements specified by the department at the time of admission.

If the student's application for admission to candidacy is not approved due to academic deficiencies, the student cannot continue graduate study with a major in any of the departments of the college in which he/she is studying.

Retention

The Tennessee Tech College of Graduate Studies has the following guidelines in place for probation and dismissal:

A graduate student is required to maintain a cumulative grade point average of at least "B" on all graduate courses taken as a graduate student. When a student's cumulative average on courses falls below 3.0, but not less than 2.0, the student will be placed on probation. If the cumulative average falls below 2.0, the student will be dismissed. If the term average, on all courses presented as part of the hours required for graduation, during any semester is less than 2.0, the student will be dismissed.

A graduate student will be dismissed from the graduate program if any one of the following conditions occurs:

1. Two consecutive semesters of probation (summer semester is not included if the student did not take a summer course).

2. The student's current or cumulative GPA falls below 2.0.
3. Two grades of "F."
4. Two consecutive semesters of "No Progress" grades assigned in thesis or dissertation courses.

A student who has been dismissed for unsatisfactory performance may request reinstatement, provided he/she produces evidence of extenuating circumstances that would prevent dismissal. The request must be approved by the department chair, director of the student's graduate program, the dean of the college, and the Graduate Studies Executive Committee. The decision of the Graduate Studies Executive Committee is final. Details may be found in TTU Policy 281 at www.tntech.edu/policies/

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With regards to monitoring student performance in the MS of Agriscience Technology program, the following retention and remediation procedures will be initiated. In the event that the student is not performing in a satisfactory manner as noted by the program director or faculty member, the following procedures are followed:

1. The program director or faculty member will notify the student of his/her unsatisfactory performance in writing.
2. Steps for improvement will be agreed upon by the student and faculty member and included as a written note in the Tech Connect advising portal.
3. For unsatisfactory academic performance, the program director/faculty member will explore tutorial support and remedial instruction available to the student. Student support service available to the student include those available through TTU's provision of free tutorial support to all of its students. Americans with Disabilities Act: Any student who needs learning accommodations should inform the professor immediately at the beginning of the semester. The student is responsible for obtaining appropriate documentation and information regarding needed accommodations from the TTU Accessible Education Center and providing it to the professor early in the semester. The office information is as follows:

Location: Roaden University Center, 112

Phone: (931) 372-6119

Fax: (931) 372-6378

Email: disability@tntech.edu

4. If performance improves to an acceptable level during the agreed upon time allotment as signed by the involved parties, the student will be allowed to continue in the graduate program.
5. If the performance issue is not academic (versus unethical behavior, substance abuse, etc.), the student may remain in the master's program following College of Graduate Studies guidelines.

Formal and informal assessment of student learning will occur routinely for students. Graduate students will receive complete assessment reports after each semester from faculty advisor and may be required to submit performance and progress reports each semester. The procedures will include regular meetings with the faculty advisor for oral discussions; completion of faculty advisor written evaluation of the student within one week of completion of the semester. These will be submitted electronically to the Graduate Program Director.

Graduation Requirements

A candidate for the master's degree in Agriscience Technology must complete at least 30 semester hours of credit in a program requiring a thesis and at least 33 semester hours in a nonthesis program.

At least 21 semester credits including research and thesis shall be required at the 6000 level or above in a 30-hour program for the thesis master's degree; at least 23 semester credits at the 6000 level or above shall be required in a 33-hour nonthesis master's program. The remainder of the courses in the program of study may be at the 5000 level; however, not more than 30% of the courses in a student's program of study may be in dually numbered 4000 (5000) courses. Courses below the 5000 level will not be counted toward a graduate degree; and, although they may appear on the written program as background requirements, these courses are not figured into degree requirements.

To earn the master's degree in Agriscience Technology the student must:

1. Complete all graduate courses while maintaining a cumulative GPA of 3.0 or higher.
2. Perform in a professional and ethical manner.
3. A graduate student pursuing a thesis track master's degree will be required to participate in a formal defense of his/her thesis.
4. A graduate student pursuing a non-thesis master's degree will be required to successfully pass a Comprehensive Exam conducted by his/her advisory committee at or near the completion of his/her graduate program.

Graduation information is available in the College of Graduate Studies Student Handbook at <https://grad.catalog.tntech.edu/> or a hardcopy can be printed from <https://www.tntech.edu/graduatestudies/pdf/2023and2024graduatecatalog110923.pdf>.

Acceptance of Transfer and other Credit

The College of Graduate Studies specifies that students who wish to transfer graduate course credits from an accredited institution to Tennessee Tech must request that the institution send official transcripts, including all grades, directly to Tennessee Tech. The Graduate Program Director will determine whether transfer coursework is eligible for transfer to the student's program of study. Coursework transferred or accepted for credit toward a graduate degree must have a minimum grade of "B" in each course. Any decision on acceptance of transfer credit will follow SACSCOC Accreditation Standard 3.6.3. Tennessee Tech's policy is to exclude grades earned in transferred courses in the calculation of grade point averages. Tennessee Tech Policy #283 (General Graduate Transfer Credit Requirements) provides additional information on Transfer Credit.

Comprehensive Examination

The College of Graduate Studies requires that each candidate must pass a comprehensive examination, conducted by the candidate's graduate advisory committee at or near the completion of their completion of their graduate program. Once the student submits their thesis to the advisory committee, a date will be determined to defend their work. The thesis defense is designed so that faculty members can ask questions and make sure that students understand their field and focus area. During a defense,

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the student will be asked questions by members of the thesis committee. Questions are usually open-ended and require that the student think critically about his or her work.

Marketing and Recruitment

It is the intent of the MS in Agriscience Technology degree program to recruit, retain, and graduate a diverse population of students including underserved and historically underrepresented students. Graduate faculty will work closely with the College of Graduate Studies and the College of Agriculture and Human Ecology to promote the degree via online and print sources; as well as attending career fairs and other events sponsored by the College of Graduate Studies. University marketing resources will be utilized including the Office of Communications and Marketing which provides design services and assistance with websites, social media, public relations, photo and video services, and media relations. Social media accounts will be created when the degree is approved and we are allowed to begin recruiting. Additionally, Graduate Faculty will attend national professional meetings to promote and recruit a wide variety of students.

Best practices to recruit and retain historically underrepresented minorities will include: partnering with multicultural professional associations and student groups (collaborations with the Tennessee Tech Office of Multicultural Affairs); target and build partnerships with Historically Black College and Universities (HBCUs) and Hispanic Serving Institutions (HSIs); attend virtual and in person career fairs which target minority student groups; establish a diversity brand which builds on the university’s mission (collaboration with the Eagle Diversity and Equity Office within Human Resources); promote the College of Graduate Studies Diversity Fellowship; work with Tennessee Tech Diversity Access Council to ensure our marketing and publications promote diversity as well as to ensure our policies and procedures support retention of diverse students.

Table 9 Marketing and Recruitment Timeline

Date	Activity
Fall 2024	Preliminary discussions with peers and prospective students about the potential of a graduate program
Spring 2025	Work with the Office of Communications and Marketing to develop promotional brochures, flyers, and digital advertising campaigns (Google Ads, Facebook Ads, LinkedIn)
Summer 2025	Launch advertising campaigns, attend Professional Organization Conferences, and begin reviewing applications and conducting interviews
Fall 2025	Conduct orientation sessions, maintain regular communication with students to ensure a smooth transition, and gather feedback from new students on the recruitment process

Student Support Services

The School of Agriculture is proud of its reputation for exhibiting a family atmosphere that is felt by students, student families, and visiting scholars. This family environment is developed through the

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support for student success through outstanding advising and mentoring. In addition to the SOA faculty commitment to student success, Tennessee Tech offers many services to support student success.

Advisory Committee

A graduate student is required to have an advisory committee and is responsible for its formation and maintenance. In consultation with their advisor, a graduate student is required to establish their advisory committee and should submit the Advisory Committee Form to the College of Graduate Studies by the completion of 15 semester hours. The graduate student, in consultation with the graduate student's academic advisor, will determine the formation of the graduate student's advisory committee as part of the Program of Study. A minimum of three (3) advisory committee members is required for a master's degree program. A graduate student's advisory committee members shall represent each of the areas in which the graduate student expects to study, with two (2) members having a background in the major area. The graduate student must have at least one (1) committee member with adequate background and research interests in the area in which the student has proposed a research objective.

The graduate student advisory committee's responsibilities include, but are not limited to, the following.

1. The chairperson of an advisory committee assists the student in the selection of a course of study and works with the student in choosing a suitable thesis topic. The chairperson is expected to furnish appropriate assistance and encouragement when excessive difficulties arise in the investigation of the problem.
2. All advisory committee members are to review the proposed Program of Study and the research proposal, and will approve, make recommendations to improve, or disapprove.
3. It is the graduate student's advisory committee's responsibility to ensure the thesis is error-free regarding format, grammar, spelling, punctuation, and content, thereby meeting the standards of excellence expected by Tennessee Tech.
4. All advisory committee members are to review the student's thesis (if one is required) prior to the defense to approve, make recommendations to improve, or disapprove.
5. All advisory committee members are to ensure that the thesis is of suitable rigor and quality that presents a valid investigation, which has been properly completed.
6. On the day of the thesis defense, the graduate student's committee chairperson must complete the thesis defense form and forward it, with all required signatures, to the College of Graduate Studies by the deadline posted on the College of Graduate Studies calendar.

The graduate student is responsible for submitting to the College of Graduate Studies any change in advisory committee.

Alumni Association

The purpose of the Alumni Association is to promote the educational, social, and economic interests of Tennessee Technological University, its alumni, faculty, friends, and current students. All former students of Tennessee Technological University who earned a degree are recognized as alumni.

The Director of Alumni Relations coordinates the activities of the Alumni Association. The work of the Association is administered through the Office of Alumni Relations in consultation with the Association's Advisory Board. The advisory board consists of alumni representatives appointed by the Director of Alumni Relations and the current Advisory Board; it also includes a delegate from the Student Alumni Ambassadors.

Career Services

The Office of Career Services, located on the third floor of the University Center, provides a variety of career resources for graduate students. Advice and suggestions to maximize interviewing strategies and resume preparation are also provided. As the University's centralized recruiting facility, candidates for a graduate degree should register with the office two (2) semesters prior to their anticipated graduation date for assistance with their job search. Registration is required for students and alumni in advance of their participation in campus interview activities.

Recognizing the benefits to be gained using cutting-edge technology, Career Services maintains a full-service web site at <http://www.tntech.edu/career/>. Students, alumni, and employers can access information about campus recruiting activities including the ability to post and obtain resumes online. Electronic links have been set up as a quick resource tool to use when searching the Internet for career resources and opportunities. Interactive videoconferencing software enables students and alumni to interview with employers worldwide.

Computer Facilities

The D. W. Mattson Computer Center is equipped with a large-scale, modern digital computer, together with peripheral equipment for the rapid input, output, and storage of information. Although the Center satisfies the general administrative, instructional, and research needs of the University, there are numerous student computer labs located throughout the campus for instructional and research purposes. Many graduate students utilize computer facilities in their research pursuits. Lab locations and hours are posted on the ITS website.

Counseling Center

The Tennessee Tech Counseling Center, located in the Roaden University Center, provides a wide range of services. Counseling offers an opportunity for students to develop more effective means of resolving problems and acquiring strategies for achieving personal and professional goals. The Center also administers several standardized tests including the GRE (subject only) and MAT for students interested in or planning to attend graduate school. Outreach and consultation services on a variety of topics of interest to students are available.

Students experience varying degrees of difficulty related to the challenges of graduate school. Transition issues, stress management, interpersonal relationships, family issues, depression, and anxiety are among the concerns that students discuss in counseling. Strict confidentiality is maintained in the counseling process.

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There is no fee for this service. Registered, enrolled students are eligible and may make appointments by calling the Counseling Center (931) 372-3331.

Financial Aid

Graduate assistantships constitute the primary source of financial aid for students enrolled in the Graduate School. Information concerning appointment of graduate assistants is found in the section entitled Organization of the College of Graduate Studies.

Students who have been admitted as regular students in a degree-seeking program may wish to complete the Free Application for Federal Student Financial Aid (FAFSA). Recipients of federal direct loans or work-study must be U.S. citizens or eligible noncitizens enrolled for at least five (5) semester hours (for federal aid purposes, halftime status is defined as enrollment for five (5) hours, three-quarter time status is defined as enrollment of six to eight (6-8) hours, and full-time is defined as enrollment of nine [9] hours). The interest on these loans is a variable amount (set by the federal government each year); interest and principal repayment may be deferred while the student is enrolled.

You may also wish to review Financial Aid's website at www.tntech.edu/financialaid/ for further information about aid programs and procedures. In addition, you can use this site to link to the online version of the Free Application for Federal Student Aid (FAFSA).

Angelo and Jennette Volpe Library

The Angelo and Jennette Volpe Library is a centralized location for students to find information for academic development. In recent years, the library has undergone renovations to establish the 30,000 square foot Learning Commons, transforming the traditional library into a collaborative learning environment for students.

Library resources include both print and electronic collections with librarians to help students find the information they need. Students also have access to materials from other libraries through Interlibrary Loan. Individual desks, large study tables, private group study rooms, and practice presentation rooms are available to students for work on any project. The library offers computers, laptops, and multimedia equipment for student use.

Multicultural Affairs

Multicultural Affairs's mission is to provide personal, cultural, social, and academic growth and development for students of color. They provide and encourage opportunities for all students of color to learn about their history, take pride in their heritage, and explore their potential. They promote cultural awareness by providing an environment that embraces diversity.

The office provides programs designed to encourage cultural awareness, as well as, educational opportunities outside the classroom. In addition, the office provides tutoring, academic counseling, scholarships and internships to improve academic performance.

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The Office of Multicultural Affairs is located in the Leona Lusk Officer Black Cultural Center, which houses a computer lab, conference room, and a library of African-American authors. We hope you will visit and relax. It is a great place to meet new friends and become involved with student organizations

Residential Life

Tennessee Tech has 15 residence halls and a 304-unit apartment complex--called Tech Village Apartments--which provides housing accommodations for enrolled students--both undergraduate and graduate.

Residence hall rooms are designed for double occupancy; however, a few single rooms are available. Rooms are furnished to include standard twin beds and mattresses, desks, chairs, dressers, telephone, smoke detector, mini blinds, closets and a wastebasket. Additionally, all rooms receive expanded basic cable service at no additional charge. All residence halls have laundry facilities located in each building. Students may provide their own personal items to make their room more unique and comfortable.

Tech Village apartments are newly renovated and assigned to students in the following priority: married students, single students with child(ren), graduate students, students with disabilities, senior undergraduate students, and faculty/staff. Each apartment has a telephone, stove, refrigerator, garbage disposal, dishwasher, smoke detector, fire extinguisher, expanded basic cable service and mini blinds. Tech Village has a laundry facility, a community center with ice machine. Your monthly rent includes expanded basic cable service, local telephone service, water service, and garbage removal. Occupants pay for electric utilities and long-distance phone calls.

All residence halls are connected to ResNet. ResNet is short for Residence Hall Computer Network. Each of these residence hall rooms has a ResNet connection for each occupant, provided the student has a personal computer. Residents also have access to computer labs in designated residence hall lobbies and the Tech Village community center. Additionally, all residence halls and Tech Village students will have a voice mailbox assigned to them to be used in conjunction with their telephone service.

Services for Students with Disabilities

The Office of Disability Services program is designed to improve the educational opportunities of students with disabilities and to create an accessible physical environment so that students may obtain their educational objectives. The Office also provides the University community with information pertinent to the successful integration of students with disabilities into the environment, as well as within the community at large.

All students with disabilities are urged to visit the Office of Disability Services to discuss their educational plans and any special needs they might have. Official documentation of a disability is necessary to determine the level of services that may be needed.

Campus Health Services

Tennessee Technological University has a state-of-the-art campus health center which provides medical services for minor illnesses or injuries to any student enrolled at the University on a walk-in basis during

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hours of operation. The health service staff includes nurses, a nurse practitioner, physician, and pharmacist who plan and implement care for students during daytime hours Monday through Friday. The only charge made to a student is for medications, treatments, supplies, or laboratory work.

Health and accident insurance is available to each student upon his/her registration at Tennessee Tech. Coverage provides hospital, surgical, and in-hospital medical protection on a year-round basis beginning with the first day of fall registration and continuing until the first day of fall registration the following year. Students may enroll in the plan during registration or at any time during the year by picking up an application at the Health Services Office (Infirmary).

Two plans of coverage are available at reasonable rates. Optional maternity coverage is offered under both plans. Details concerning this insurance are available from the Student Health Service and during registration. Students are encouraged to participate in one (1) of the insurance plans, as it supplements the above services offered by Campus Health Services.

Instructional and Administrative Resources

Faculty Resources

Current faculty resources, newly hired faculty and the anticipated hire of an Agricultural Economics faculty member with expertise in agricultural finance and an Animal Science faculty member with expertise in beef cattle production will ensure a high-quality program. The adequacy of the number of faculty has been considered as part of the planning process of this degree and is found that an adequate number of faculty will be available to provide for a successful graduate program. All faculty have attained doctorate degrees in their respective area of study and will contribute to providing a robust program that will not require any new lines for faculty. All faculty are qualified to attain graduate faculty status. Graduate faculty status is for either six years for full, or three years for associate, adjunct or clinical. Faculty must reapply to maintain or change graduate faculty status. Table 10 demonstrates that 39 credit hours can be devoted to the graduate program. **Appendix II** contains the faculty vita.

Table 10. Current Faculty Roster

Faculty Name	Highest Degree	Rank	Primary Concentration	Full-time or Part-time	% Of Time Devoted to Program
Douglas Airhart	Ph.D.	Professor	Plant Sciences	Full-time	3 hrs.
Victoria Ayres	Ph.D.	Assistant Professor	Poultry Science	Full-time	3 hrs.
James Baier, <i>Program Director</i>	Ph.D.	Assistant Professor	Agricultural Engineering Tech	Full-time	3 hrs.
Ciana Bowhay	Ph.D.	Assistant Professor	Animal Science	Full-time	3 hrs.
Dennis Duncan	Ph.D.	Professor	Agricultural Ed.	Full-time	3 hrs.
Dennis Fennewald	Ph.D.	Associate Professor	Animal Science	Full-time	3 hrs.

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Jinho Jung	Ph.D.	Assistant Professor	Agricultural Econ.	Full-time	3 hrs.
Brian Leckie	Ph.D.	Associate Professor	Plant and Soil Sci.	Full-time	3 hrs.
Abdul Momin	Ph.D.	Assistant Professor	Agricultural Engineering Tech	Full-time	6 hrs.
Michael Natrass	Ph.D.	Assistant Professor	Plant and Soil Sci.	Full-time	3 hrs.
Modoluwamu Idowu	Ph.D.	Assistant Professor	Animal Science	Full Time	3 hrs.
Lianqun Sun	Ph.D.	Assistant Professor	Agricultural Econ.	Full Time	3 hrs.
					39

Support Resources

Support resources including support staff, student advising resources, and professional development are already in place for this graduate program. The School of Agriculture Administrative Associates will provide advising support in the form of securing Alternate PIN numbers and providing student reports from Argos and Banner. Dr. Baier has been advising undergraduate students for 20 years and is familiar with Banner and TechConnect advising systems. He will be the initial academic contact for faculty and students.

Administrative Support

The School of Agriculture Administrative Associate will provide administrative support in the form of advising student reports, ordering supplies, program communication and the School of Agriculture Financial Associate will be responsible for maintaining financial records. University assistance is already being provided from the College of Graduate Studies (consultation and guidance); Center for Innovation in Teaching and Learning (design of online courses); as well as the College of Interdisciplinary Studies (utilizing existing courses).

Institutional Capacity to Deliver Proposed Program

Accreditation

None

Consultants

An External Reviewer (consultant) one-time stipend of \$3000 will be paid to conduct the feasibility study.

Equipment

The School of Agriculture has been able to provide much needed equipment through start-up packages with the five recent (less than five-years) faculty hires. Three future faculty hires will also bring in start-up funds for equipment that will be used for research. The SOA currently owns and/or shares research equipment that is in the Poultry Research Center, Water Center, and new Lab Science Commons.

No additional funds will be required.

Information Technology

TN Tech has an office of Information Technology Services (ITS), which provides computer resources, technical services and support for instruction, research, and administration to all TN Tech Faculty. Related to learning resources and support, TN Tech has the Center for Innovation in Teaching and Learning which provides workshops, trainings, and consultations to faculty related to online teaching and learning. iLearn, powered by Brightspace D2L is the online learning management software provided by TN Tech for all students and faculty. Staff members in the Center for Innovation in Teaching and Learning provide one on one training and course development services for iLearn. The College of Agriculture and Human Ecology has a dedicated ITS Support Staff member who provides technical support to faculty related to computer and software needs.

Additional funds for Information Technology may occur for specialized technology software that can be a one-time cost or a subscription cost. The Ag Leader subscription cost for Smart Farming AutoSteer costs \$1250 annually. Annual operating costs of \$2,000.00 per year for Equipment will allow for purchase of appropriate computers for the program

Library Resources

The Volpe Library provides a variety of resources to students and faculty including: online journal databases, Interlibrary Loan, RefWorks, and Research Poster Design. Additionally, Reference Faculty members are available to work one on one with faculty to secure resources from other locations and to provide support. There are no current cost requirements for Library resources.

Marketing

The MS in Agriscience will be marketed through print, online and in person methods. Each faculty member is a member of a professional association in the discipline with which direct and indirect marketing can take place through website postings or professional meeting attendance.

University marketing resources will be utilized including the Office of Communications and Marketing which provides design services and assistance with websites, social media, public relations, photo and video services, and media relations. Social media accounts will be created when the degree is approved.

Marketing materials for the program, business cards, brochures, etc. would need to be created and printed to launch the program. One cost for the planning year which has not been incurred yet is Printing-\$2000. Annual Marketing materials for mailings and meeting displays would cost \$1000.

Facilities

A new Agriscience Technology Innovation Center will be constructed before January 1, 2026, from funds provided by a donor and matched by the university. The greenhouse facility headhouse will be renovated by August 2025 with funds from an Appalachian Regional Commission grant matched by the university. These resources will provide space in addition to the lab spaces currently in Oakley Hall and the Poultry Research facility. The School of Agriculture faculty also share lab facilities in the new Science Building and the Water Center.

Travel

Travel to the Graduate Management Admission Council Leadership Conference opportunity for attendees to join strategic conversations and explore new ideas in leadership practice and instruction; solve current challenges through formal and informal networking opportunities; and learn from the world's preeminent thought leaders in education and management. This program is for Program Directors to present innovative approaches to new or existing challenges so that session attendees can get inspiration and ideas for ways to approach similar situations at their home institutions. Attending the Conference during the planning process will provide insight into delivering an effective launch of the program and annual attendance will build a program that students will desire to complete. This an annual event would incur a cost of \$3000 annually. The Program Director would also visit Tennessee academic career fairs for recruiting which would cost \$1000 annually.

Other Resources

None

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Table 11. Estimated Costs to Deliver the Proposed Program

Estimated Costs to Deliver the Proposed Program						
One-Time Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Accreditation	-	-	-	-	-	-
Consultants	\$3000	-	-	-	-	-
Equipment	-	-	-	-	-	-
Information Technology	-	-	-	-	-	-
Library	-	-	-	-	-	-
Marketing	-	-	-	-	-	-
Facilities	-	-	-	-	-	-
Travel	-	-	-	-	-	-
Other	-	-	-	-	-	-
Total One-Time Expenditures	\$3000	-	-	-	-	-
Recurring Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Accreditation	-	-	-	-	-	-
Consultants	-	-	-	-	-	-
Equipment	-	-	-	-	-	-
Information Technology	-	\$3250	\$3250	\$3250	\$3250	\$3250
Library	-	-	-	-	-	-
Marketing	\$2000	\$1000	\$1000	\$1000	\$1000	\$1000
Facilities	-	-	-	-	-	-
Travel	\$4000	\$4000	\$4000	\$4000	\$4000	\$4000
Other	-	-	-	-	-	-
Total Recurring Expenditures	-	\$8250	\$8250	\$8250	\$8250	\$8250
Grand Total (One-Time & Recurring)	\$9000	\$8250	\$8250	\$8250	\$8250	\$8250

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Appendix I
New Graduate Course Syllabi

7.1

Tennessee Tech University

School of Agriculture

AGR 6010 Agroecology

7.1

Lecture hours: TBD

Credit hours: 3

Semester: Fall, 2025

Instructor Information

Office Hours: TBD

Course Information

PREREQUISITES – N/A

Texts and References

Buffet, Howard. 2013. 40 Chances: Finding Hope in a Hungry World.

Peer reviewed scientific articles and government web sites.

Course Description:

This course is designed to introduce various topics of agroecology including traditional and organic farming, plant and animal production, pest management, and sustainable practices found regionally, nationally, and globally.

Course Objectives/Student Learning Outcomes

During this course students will:

- Define and described the properties of agroecosystems.
- Created and utilize an investigative framework for analyzing the origin, impact and sustainability of agricultural practices used on farms in the region.
- Define, assess, and interpret factors which contribute to greater sustainability of agroecosystems
- Consider how worldview affects people's (their own and others) views of agroecosystems and of sustainability

Major Teaching Methods

(e.g. lectures, labs, demonstrations, discussion, reading, or written assignments, etc.)

Online synchronous and asynchronous methodologies, reading assignments, project, laboratory/field lab

Topics to Be Covered

1. Historical perspectives of US agriculture and sustainability
2. biotechnology
3. biodiversity
4. Regional food systems
5. alternative farming systems
6. global perspectives on agroecology and sustainability

Grading and Evaluation Procedures

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will be reduced by 10 points, for every 24 hours it is late.

Grading system

Activity	Percentage of Grade
Discussion Posts	10
Peer Reviewed Manuscript Summaries	10
Assignments	30
Final Exam	20
Term Project	30

GRADING SCALE

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. For details, view the Tennessee Tech’s Policy 217 – Student Academic Misconduct Policy at [Policy Central](#).

Attendance Policy:

Attendance is expected at all lectures and activities. Any material missed with either an excused or unexcused absence is the responsibility of the student to obtain or make-up.

Assignments and Related Policy

A. Homework Assignments

Written or reading assignments will be assigned at the instructor’s discretion and made available in iLearn.

B. Discussion Posts

Posts will be required for all guest lecturers, TED Talks, timely news stories.

C. Manuscript Summaries

Summaries should follow the guideline sheet (in iLearn) for full credit.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Student Academic Misconduct Policy

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Any student who feels that they may need an accommodation because of a disability (learning disability, attention deficit disorder, physical, etc.) please make an appointment to see us as soon as possible.

Additional Resources

Technical Help

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7.1

Tennessee Tech University

School of Agriculture

AGR 6100 Foundations of Sustainable Agriculture in Modern Society

7.1

Lecture hours: TBD

Credit hours: 3

Semester: Fall, 2025

Instructor Information

Office Hours: TBD

Course Information

Prerequisites – N/A

Texts and References

Required: Toward Sustainable Agricultural Systems in the 21st Century. National Research Council, Washington, DC: The National Academic Press. (e-book).

Peer reviewed scientific articles and government web sites.

Course Description:

A baseline view of Sustainable Agriculture and its effect on marketing, community vitality, ecological insect and weed management, grazing, conservation tillage, cover crops, crop, livestock and landscape diversity, nutrient management of soils, on-farm energy conservation and production from a whole farm perspective.

Course Objectives/Student Learning Outcomes

During this course students will:

- Learn how issues at various levels – farm, community, regional National, and global-influence agriculture sustainability and future food supply.
- Gain a basic understanding of agricultural/horticultural practices at the farm-level, including agroecological management principles and practices used to reduce environmental degradation.
- Think critically where their food comes from, and be able to analyze the environmental, economic, and social costs and benefits involved in delivering food from farm to market.
- Become knowledgeable of agri-environmental policies used to keep farmland in production as well as integrating farming priorities into the urban and rural interface.

Major Teaching Methods

(e.g. lectures, labs, demonstrations, discussion, reading, or written assignments, etc.)

Online synchronous and asynchronous methodologies, reading assignments, project, laboratory/field lab

Topics to Be Covered

1. Historical perspectives of US agriculture and sustainability
2. Soils and sustainability
3. biodiversity
4. integrated pest management
5. alternative farming systems

Grading and Evaluation Procedures

Students are expected to complete all assignments and submit them by the date and time they are due. A late assignment will have its grade reduced by 10 points for every 24 hours it is late.

Grading system

Activity	Percentage of Grade
Discussion Posts	10
Peer Reviewed Manuscript Summaries	10
Assignments	30
Final Exam	20
Term Project	30

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

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Attendance Policy:

Attendance is expected at all lectures and activities. Any material missed with either an excused or unexcused absence is the responsibility of the student to obtain or make-up.

Assignments and Related Policy

A. Homework Assignments

Written or reading assignments will be assigned at the instructor’s discretion and made available in iLearn.

B. Discussion Posts

Posts will be required for all guest lecturers, TED Talks, timely news stories.

C. Manuscript Summaries

Summaries should follow the guideline sheet (in iLearn) for full credit.

Disability Accommodation

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7.1

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School of Agriculture

AGR 6120

Agriscience Technology Colloquium I

Lecture hours: TBD

Credit hours: 1

Semester: Spring

Instructor Information

Office Hours: TBD

Course Information

Prerequisites – N/A

Texts and References

Peer reviewed scientific articles and government web sites.

Course Description:

Colloquium is a weekly forum for students, faculty, and other interested members of the TN Tech community to engage with speakers on sustainable agriculture topics. Colloquium provides students an opportunity to learn about the areas that impact the study of agricultural sustainability and to engage with multiple stakeholders in the study, business, and practice surrounding sustainable agriculture.

Course Objectives/Student Learning Outcomes

During this course students will demonstrate:

- An ability to frame problems and ask critical questions concerning agriscience technology
- Knowledge of biophysical as well as socioeconomic aspects of agricultural technology
- An expertise in agriscience technology that transcends disciplinary boundaries
- An ability to work interdependently and collaboratively
- The capacity to address complex agricultural problems by using systems thinking and other approaches
- An ability to critique different problem-solving methods and approaches, and recognize and display visionary leadership with moral and ethical integrity

Major Teaching Methods

(e.g. lectures, labs, demonstrations, discussion, reading, or written assignments, etc.)

Online and hybrid weekly forums

Topics to Be Covered

1. US agriculture and sustainability
2. agriscience technology practices
3. government regulation & policy
4. biodiversity
5. alternative farming systems

Grading and Evaluation Procedures

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will be reduced by 10 points for every 24 hours they are late.

Grading system

Activity	Percentage of Grade
Discussion Posts	50
Peer Reviewed Manuscript and Article Summaries	30
Case Study Development	20

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Misconduct Policy

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Attendance Policy:

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Assignments and Related Policy

A. Homework Assignments

Written or reading assignments will be assigned at the instructor’s discretion and made available in iLearn.

B. Discussion Posts

Posts will be required for all guest lecturers, TED Talks, timely news stories.

C. Manuscript Summaries

Summaries should follow the guideline sheet (in iLearn) for full credit.

Disability Accommodation

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7.1

School of Agriculture

AGR 6121

Agriscience Technology Colloquium II

7.1

Lecture hours: TBD

Credit hours: 1

Semester: Spring

Instructor Information

Office Hours: TBD

Course Information

Prerequisites – N/A

Texts and References

Peer reviewed scientific articles and government web sites.

Course Description:

Colloquium is a weekly forum for students, faculty, and other interested members of the TN Tech community to engage in current agriscience technology research topics. Colloquium provides students an opportunity to learn about the areas that impact the study of agricultural sustainability and to engage with multiple stakeholders in the study, business, and practice surrounding agriculture. Colloquium II students will present research or project results.

Course Objectives/Student Learning Outcomes

During this course students will demonstrate:

- An ability to frame problems and ask critical questions concerning agriscience technology
- Knowledge of biophysical as well as socioeconomic aspects of agricultural technology
- An expertise in agriscience technology that transcends disciplinary boundaries
- An ability to work interdependently and collaboratively
- The capacity to address complex agricultural problems by using systems thinking and other approaches
- An ability to critique different problem-solving methods and approaches, and recognize and display visionary leadership with moral and ethical integrity

Major Teaching Methods

Online and hybrid weekly forums

Topics to Be Covered

1. US agriculture and sustainability
2. agriscience technology practices
3. government regulation & policy
4. biodiversity
5. alternative farming systems

Grading and Evaluation Procedures

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will be reduced by 10 points for every 24 hours they are late.

Grading system

Activity	Percentage of Grade
Discussion Posts	50
Peer Reviewed Manuscript and Article Summaries	30
Case Study Development	20

Grading Scale

Letter Grade	Grade Range
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7.1

TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGR 6300

Research Methods for Agriscience Technology

7.1

SEMESTER: TBA

DATES AND TIMES: TBA

CLASSROOM: online

NUMBER OF CREDIT HOURS: 4

INSTRUCTOR INFORMATION:

Instructor's Name:

Office:

Telephone Number:

Email:

Office Hours:

TBA

Prerequisites: MATH 1530 or equivalent

Texts and References:

Notes and reading materials provided via iLearn, links provided via email messages or during class.

Course Description:

Discussion of hypotheses testing, appropriate design of agricultural and natural resource experiments to derive desired inference from results, and statistical designs for analysis of discrete and continuous data.

Course Objectives/Student Learning Outcomes:

1. Understand process of developing appropriate hypotheses that can be tested to provide statistical support for a conclusion regarding agricultural/natural resource questions.
2. Learn the process of designing field experiments in such a manner as to make proper inference from resulting data and draw appropriate conclusions about the hypothesis regarding the research question.
3. Learn the primary statistical designs used to draw appropriate inference from data and in what situations the respective designs may be appropriate.
4. Gain experience in the use of computer statistical packages that are normally used in analyzing agricultural and natural resource data.

Major Teaching Methods: Lectures, Data Analyses Assignments.

Special Instructional Platform/Materials:

Students will be expected to utilize computer spreadsheet and statistical packages (Excel, SAS, SPSS, and the (“R Project for Statistical Computing”) to analyze experimental data.

Topics to Be Covered:

- Introduction to statistics
 - Brief history
 - Probability and randomness
 - Purpose of statistical analysis
 - Appropriate use of statistic to make inference
- Variables:
 - Dependent
 - Independent
 - Discreet
 - Continuous
- Simple Statistics
 - Benefits of normally distributed data
 - Measures of central tendency
 - Measures of dispersion
 - Data Transformations
- One-Way Comparisons
 - T Test
 - Chi Square
 - Analysis of Variance
- Multi-Way Comparisons
 - Completely Random Design
 - Factorial Design
 - Randomized Block Design
 - Split Plot Design
- Continuous Variables
 - Correlation
 - Regression
 - Polynomial Regression
 - Multiple Regression
- Survey of Multivariate Statistics
 - Analysis of Covariance
 - Discriminant Analysis
 - Factor Analysis

Grading and Evaluation Procedure:

- Two Exams worth 50% (25% each) of grade
 - Midterm
 - Final

- **The final exam grade will be counted twice to compensate for excused makeup exams**
- Quizzes worth 25% of grade
 - Approximately 8 quizzes
- Homework and class exercises worth 25% of grade
 - Homework assignments will be given for each major topic
 - Some will hand calculations but most assignments will be computer program analysis assignments

Grading Scale (Maximum):

Letter Grade	Grade Range
A	89.5 - 100
B	79.5 – 89.5
C	69.5 – 79.5
D	59.5 – 69.5
F	59.5 and below

Course Policies:

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Attendance, Assignments and Related Policy:

Students are expected to attend each meeting of every class for which he/she is registered (Lecture and lab). Students assume the responsibility of explaining and justifying absences to the instructor and making arrangements to complete missed work or quizzes if absences are excused.

Unsatisfactory class attendance may result in the student being dropped from a course with a grade of F. Unsatisfactory attendance is defined in this course as the accumulation of absences sufficient to result in students failing to perform the regular assignments on time or unsatisfactory student performance on tests, quizzes, or laboratory assignments.

The final exam grade will be counted twice to compensate for excused makeup exams.

7.1

TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGR 6960 Special Topics in Agriscience Technology

7.1

Syllabus

Catalog Data: AGR 6960. Special Topics in Agriscience Technology. Credit 1-4. Special study in an approved area of agriscience technology under the supervision of a member of the School of Agriculture faculty

Coordinator:

BA

T

Textbook:

None

Office Hours:

BA

T

Class Hours:

BA

T

Course Description:

The class will incorporate aspects of Agriscience Technology on a subject that is

Topics to be Covered:

Grading:

Project timeline goals	30%	A 90-100%
Project Report	30%	B 80-89%
Poster Presentation	40%	C 70-79%
		D 60-69%
		F 0-59%

Course Policies:

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Attendance Policy

Arrangements of meeting times with the faculty members will be made the first week of class and subsequent class meetings are expected to be arranged. Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

Class Participation

Scheduled class meetings are expected to be attended. Unexcused meeting absences will result in a 5% reduction in the project timeline goals grade.

Assignments and Related Policy

Project results are to be analyzed, reported and professionally presented at a meeting agreed upon by the faculty member and student.

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7.1

TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGET 6200 Smart Farming Technology

7.1

Syllabus

Instructor Information

Instructor's Name: Abdul Momin

Office

Telephone Number

Campus Email

Course Information

References

1. Smart Farming Technologies – Description, Taxonomy and Economic Impact, Springer International Publishing AG 2017.
2. Smart Farming and Food Safety Internet of Things Applications – Challenges for Large Scale Implementations AIOTI WG06 – 2015.
3. Smart farming technology innovations – Insights and reflections from the German Smart-AKIS hub By Andrea Knierima,*, Maria Kerneckerb, Klaus Erdlec, Teresa Krausb, Friederike Borgesb, Angelika Wurbsb a Universität Hohenheim, and Leibniz Centre for Agricultural Landscape Research (ZALF), Germany
4. Smart Plant Factory The Next Generation Indoor Vertical Farms By Toyoki Kozai, Springer.
5. Smart Agriculture: An Approach towards Better Agriculture Management: Editor: Prof. Dr. Aqeel-ur-Rehman, OMICS Group.

Course Welcome and Description

The smart farming technology (SFT) relies on innovative ideas and technological advancements to help increase yields, minimize production cost, reduce environmental impact associated with agricultural operations, improve farm operational management and better allocate resources. The course is designed on the concept of smart agricultural machines and operations which is embedded with sensors that are connected to the Internet, requires the understanding of embedded electronics, software, sensors, network, and data analytics.

Course Objectives/Student Learning Outcomes

Learning Objectives

At the end of the course students will be able to:

1. Understand how smart farming technologies can be used in agriculture systems and affect an agriculture production;
2. Understand the concept of SFT and its major architecture and components;
3. Demonstrate a familiarity with technology, precision ag data, data handling and management processes and software used in the course.
4. Understand how to collect and analyze data with IoT for precision agriculture systems and strategically store and share data for public access;
5. Know basic statistical tools that can be used to analyze the data collected in modern agriculture business.

Major Teaching Methods

This course is an on-ground lecture and lab delivered course.

Special Instructional Platform/Materials

None

Course Schedule

See Topics to be Covered Table

7.1

Topics to be Covered

Course Content	No. of Lectures
<p><i>Overview of SFT:</i> An overview of IoT, GSM and ICT and other key combinations of skills, knowledge, aptitudes and attitudes as a precondition for successful life, business, learning in agriculture: potential and challenge</p>	4
<p><i>SFT Components:</i> Architecture and components of a typical SFT system, typical sensors and sensor node used in Agriculture, such as weather, soil, air and crops.</p>	3
<p><i>Sensors and microcontrollers:</i> Working with Sensors and microcontrollers, embedded and single chip controllers, Smart sensors, Proximity Sensors</p>	4
<p><i>Actuators for tool automation:</i> A.C.-D.C. Motors, Stepper motor, Solenoid actuators, Piezoelectric motors, Electric drives, Hydraulic and Pneumatic actuator Technology available to 3tag things, such as RFID, bar code, typical actuators in agricultural applications.</p>	3
<p><i>Connectivity and communications:</i> Wired and wireless technology, setup a server for IoT systems, Identify and test Wired & Wireless communication medium such as RS232, RS485, Ethernet, Fiber Optic, Wi-Fi, GSM, GPRS, RF etc. and Communication protocol</p>	3
<p><i>IoT system:</i> Sensors (T & RH sensor), controllers and data loggers (Pi and Arduino), Wireless communication (node and gateway: LoRa/BT/ZigBee)</p>	2
<p><i>Smart data collection:</i> Principle and concept of data collection using unmanned agricultural machinery, Drones and UAV, Remote and Spatial data for agriculture.</p>	2
<p><i>Plant health monitoring:</i> Measurement of crop health, chlorophyll detection, ripeness level, crop mapping, fertilizing, Drone technology for soil field analysis and assistive operations.</p>	3
<p><i>Technologies for farming:</i> Conceptual design of smart irrigation system, Water quality monitoring solar pump and lighting system, Android-based automation, Agricultural Robots</p>	4

Grading Scale

Letter Grade	Grade Range
A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	59 and below

Course Policies

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy 217 describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. Effective July 20, 2023, the university’s student academic misconduct policy has been revised and is published at [Policy Central](#). Students are expected to review and read this policy as part of their orientation to the syllabus and the course expectations.

Attendance Policy

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

Assignments and Related Policy

Late submissions will not be accepted and will be counted as zero credit.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

7.1

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

7.1

Appendix II
Faculty Curricula Vitae

7.1

Douglas Airhart

Professor, School of Agriculture
 Nursery Research and Service Center
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-3288; Email: dairhart@tntech.edu

EDUCATION

Doctor of Philosophy, Plant Sciences, 1977. University of Georgia, Athens.

Dissertation: Wettability of Milled Pine Bark.

Master of Science, Water Resources Management, 1972. University of Wisconsin, Madison.

Project: Public Involvement in Planning Process.

Bachelor of Science, Renewable Natural Resources, 1970. University of California, Davis.

Project: Putah Creek Recreation Area - analysis and evaluation.

Professional Registration

Municipal Specialist # SO-1432AM, since 2006. International Society of Arboriculture, Champaign, Illinois.

Certified Arborist # SO-1432A, since 1997. International Society of Arboriculture, Champaign, Illinois.

Master Horticultural Therapist, 1981. American Horticultural Therapy Association, Seattle, Washington.

PRIMARY RESEARCH INTERESTS

Periodic Cicada Damage to Nursery Crops; Biochar Applications to Nursery Crop Production; Landscape Tree Establishment; Roadside Wildflower Establishment;

UNDERGRADUATE COURSE RESPONSIBILITIES*

Course	Semester	Credit Hours
AGHT 3030 Integrated Pest Management	Spring, Odd Years	3
AGHT 3400 Landscape Horticulture	Fall, Odd Years	3
AGHT 3410 Plant Propagation	Fall, Odd Years	3
AGHT 3440 Floral Arrangement (assist, faculty on record)	Fall, Spring	3
AGHT 3460 Interior Plantscaping	Fall, Even Years	3
AGHT 3470 Landscape Plant Materials	Spring, Even Years	3

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AGHT 4410 Nursery Management	Spring, Odd Years	3
AGHT 4420 Greenhouse Management & Crop Production	Spring, Even Years	3
AGRN 3100 Turf Management	Fall, Even Years	3
AGHT Special Topics	As Needed	3

7.1

Victoria E. Ayres, Ph.D.

Tennessee Tech University | School of Agriculture | Campus Box 5034 | Oakley Hall 140 | Cookeville, TN 38505 | vayres@tntech.edu | (614) 561-0849

CURRENT EMPLOYMENT

Assistant Professor	2022- present
Tennessee Tech University, Cookeville, Tennessee Tech University	
Teaching, Research, and Service (40, 50, 10%, respectively)	

Primary Research

- Poultry Nutrition
- Feed additive and feedstuff quality assessment

EDUCATION

DOCTOR OF PHILOSOPHY, Animal and Food Science	2019-2022
West Virginia University	Morgantown, West Virginia

Dissertation: The effects of feed additives and the use of a novel wood boiler heating system on litter quality, broiler performance, and immune status

MASTER OF SCIENCE, Nutrition and Food Science	2017-2019
West Virginia University	Morgantown, West Virginia

Thesis: Evaluating the effects of exogenous enzyme supplementation on broiler growth

BACHELOR OF SCIENCE, with Research Distinction, Animal Sciences	2013-2017
The Ohio State University	Columbus, Ohio

UNDERGRADUATE COURSE RESPONSIBILITIES

Course	Semester	Credit Hours
AGR 1020: Connections to Agriculture	Fall (all years)	1
ANPS 1300: Introduction to Poultry Science	Fall (all years)	3
ANPS 2010: Poultry Management Systems	Fall (all years)	3
ANPS 3200: Applied Poultry Nutrition	Spring (even years)	3
ANPS 3990: Experiential Learning in Poultry Science	Fall and Spring (all years)	1
ANPS 4020: Feed Manufacturing	Spring (odd years)	3
ANS 4200: Poultry Production and Management	Spring (all years)	3
ANS 1200: Introductory Animal Science	As needed	3
ANS 1210: Introduction to Animal Science Lab	As needed	1
EVSA 6010: Environmental Agriculture	As needed	3

James Wayne Baier

Assistant Professor, Interim Director, School of Agriculture
 Assistant Dean, College of Agriculture and Human Ecology
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-3193; Email: jbaier@tntech.edu

EDUCATION

- 1997: The University of Kentucky, Lexington, Kentucky
 Doctor of Philosophy in Biosystems and Agricultural Engineering

 Dissertation Title: Modeling Landfill Gas Production Under Sewage Sludge Addition, Leachate Recirculation and pH Control
- 1991: The University of Kentucky, Lexington, Kentucky
 Master of Science Agricultural Engineering

 Thesis: STRIDES - A Simplified Trickle Irrigation Design and Specification Computer Model
- 1987: The University of Kentucky, Lexington, Kentucky
 Bachelor of Science in Agricultural Engineering

PRIMARY RESEARCH INTERESTS

The effects of potash levels on sweet sorghum syrup, sweet sorghum variety crushing pressure requirements.

UNDERGRADUATE COURSE RESPONSIBILITIES

Course	Semester	Credit Hours
AGET 1600 – Practical Application in Agriculture	Fall	3
AGET 2110 - Agricultural Engineering Technology	Fall	2
AGET 2115 – Agri. Engineering Technology Laboratory	Fall	1
AGET 3110 - Natural Resource Systems	Spring	2
AGET 3115 - Natural Resource Systems Laboratory	Spring	1
AGET 3320 - Small Power Equipment	Spring Odd Years	2
AGET 3325 - Small Power Equipment Laboratory	Spring Odd Years	1
AGET 3560 - Turf Systems Irrigation Design	Fall Even Years	2
AGET 3565 - Turf Systems Irrigation Design Laboratory	Fall Even Years	1
AGET 3620 - Computer-Aided Design in Agriculture	Fall Odd Years	3
AGET 4220 - Agricultural Machinery and Tractors	Spring Even Years	2
AGET 4225 - Agricultural Machinery and Tractors Laboratory	Spring Even Years	1
AGET 4620 - Agricultural Structures	Spring Even Years	3
AGET 4720 - Agricultural Processing	Spring Odd Years	3
Advanced Internship	As Needed	3

Ciana Bowhay

Assistant Professor, School of Agriculture
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-6124; Email: cbowhay@tntech.edu

EDUCATION

Doctor of Philosophy, Animal Science, Scholarship of Teaching and Learning 2021. Texas A&M University, College Station, TX.

Dissertation: Traditional and non-traditional strategies to increase student engagement and motivation in Animal Science education

Master of Science, Comparative Animal Nutrition, 2017. Kansas State University, Manhattan, KS.

Project: Novel Probiotic Supplementation in Equine, Poultry and Swine Production.

Bachelor of Science, Animal Science, 2014. Texas A&M University, College Station, TX.

PRIMARY RESEARCH INTERESTS

Scholarship of Teaching and Learning in Agriculture, Animal Nutrition

UNDERGRADUATE COURSE RESPONSIBILITIES*

Course	Semester	Credit Hours
ANS 1200 Introductory Animal Science	Fall and Spring	3
ANS 1210 Introductory Animal Science Lab	Fall and Spring	2
ANS 4150: Equine Management	Spring, Odd Years	3
AGR 3275: Practical Applications in Research	Spring	1
ANS 3140: Livestock Reproduction	Fall	3
AGR 3250: Introduction to Research,	Fall	2
AGR 1020: Connections to Agriculture	Fall	1
ANS 3020: Animal Feeds and Feeding	Spring	3
ANS 3010/3015: Animal Nutrition	Fall	3
ANS Special Topics	As Needed	3

7.1

Dennis W. Duncan, Ph. D.

Academic Degrees

Doctor of Philosophy, Michigan State University, East Lansing, MI - 1997 - Major: Agricultural and Extension Education (Emphasis – Higher Education Administration).

Master of Science, Michigan State University, East Lansing, MI - 1994 - Major: Agricultural and Extension Education (Emphasis – Higher Education Administration).

Bachelor of Science, Michigan State University, East Lansing, MI - 1989 - Majors: Agribusiness and Natural Resource Education; Horticulture.

Academic Positions

Professor, School of Agriculture, Tennessee Tech University, Cookeville, TN, October 2019 to present.

Director, School of Agriculture, Tennessee Tech University, Cookeville, TN, January 2017 to October 2019.

Professor, Agricultural Leadership, Education, and Communication (ALEC), The University of Georgia, Athens, GA. July 2013 to 2017.

Department Head and Graduate Coordinator, (ALEC), UGA, Athens, GA. July 2010 to June 2013.

Associate Professor and Graduate Coordinator, (ALEC), UGA, Athens, GA. July 2008 to June 2010.

Assistant Professor, (ALEC), UGA, Athens, GA. July 2004 to June 2008.

Assistant Professor and Coordinating Counselor, Agricultural and Extension Education (AEE), Virginia Polytechnic Institute and State University, Blacksburg, VA. September 2003 to June 2004.

Coordinating Counselor, Agricultural Technology Program, Virginia Polytechnic Institute and State University, Blacksburg, VA. August 1997 to September 2003.

Recognitions and Outstanding Achievements Related to Teaching and Advising

- TN Tech College of Agriculture & Human Ecology Outstanding Agriculture Award (2023)
- Tech Research and Creative Inquiry Day (2022, 2021, 2020, & 2019) Award Winner

Recognitions and Outstanding Achievements Related to Research and Scholarship

- Wings-Up 100 Research Achievement Award (2023, 2022, 2021, 2020, 2019)

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Contributions to Teaching (E = distance education course)

Undergraduate and Graduate Courses Taught at Tech – AGR 3000 (Leadership & Service); AGR 4500 (Senior Seminar); AGHE 1020 University Connections; AGED 4110 (Program Planning for Agriscience Education); AGR 2022E (Professionalism in the Workplace); AGR 3200 (Scotland Service-learning Study Abroad); AGED 4200/5200 (Teaching Methodologies for Agriscience Education); AGED 4300 (Youth Group Organizations); AGED 4871 (Professional Seminar); AGHE 4600/5600E (Global Seminar)

Contributions to Scholarship and Other Creative Activities

Tennessee Projects

- (2022). Duncan, D. & Fennewald, D. TN Agriscience Teachers' Perceived Benefits of annual TN Tech FFA Clinics
- (2021-present). Duncan, D, Natrass, M. & Bowhay, C. TN Tech School of Agriculture students' perceived critical thinking competencies – a longitudinal study.
- (2021). Duncan, D. TN agriscience teachers' perceived level of importance for specific DOE Food Science pathway standards and their level of self-efficacy toward teaching those standards
- (2020-2021). Duncan, D. & Turner, S. Curriculum Needs at Camp Clements as Perceived by TN FFA Advisors and FFA Members.

International Projects

- (2014-Present) Collaborating with University of Glasgow Interdisciplinary Studies Program faculty on implementation and evaluation of an International service learning study abroad programs in Dumfries, Scotland

Undergraduate Research

- *Lay, A. & Duncan, D. (2022). Expanding Water Line Infrastructure to Rural Residents of Putnam County.
- Austin, E. & Duncan, D. (2022). TN Agriscience Teachers' perceived knowledge and understanding of the Food Science Pathway
- Ellis, L. & Duncan, D. (2021). The Impact Social Capital Has on Communication Within Extension Education. (16th Annual TTU Research and Creative Inquiry Day (poster presentation)
- Phelps, M. & Duncan, D. (2020). Alumni Perceptions of Improvements Needed in the TTU School of Agriculture. (15th Annual TTU Research and Creative Inquiry Day (poster presentation)
- Wakefield, A. & Duncan, D. (2020). Prior 4-H and FFA Involvement on TN Tech SOA Enrollment. (15th Annual TTU Research and Creative Inquiry Day (poster presentation)

- *Phelps, M. & Duncan, D. (2019). Important Employability Skills of University Graduates as Perceived by Industry Leaders. 14th Annual TTU Research and Creative Inquiry Day (poster presentation)
- *Harris, M., Duncan, D. & Anderson, M. (2019). The Impact of a University Connections Course on Freshmen Students in the College of Agriculture and Human Ecology. 14th Annual TTU Research and Creative Inquiry Day (poster presentation)

*-Undergraduate Winner

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Grants and Sponsored Projects

Tennessee Department of Education TDOE

Tennessee FFA – Camp Clements (2021-2024). Collaborative project with Tech School of Agriculture, Tennessee

FFA Association and Camp Clements. Duncan serves as PI. Total Award - \$436,000

Tennessee FFA – Camp Clements (2020-2021). Collaborative project with TTU School of Agriculture, Tennessee

FFA Association and Camp Clements. Duncan serves as PI. Total award - \$232,500.

United States Department of Agriculture (2021-2024). Multi-institution grant - \$750,000. SAFE: Enhancing Rural Communities

Through Soil, Animal, Food, and Economic Research, Education, and Outreach. Tech Portion - \$150,000
Duncan & Natrass

Tech Quality Enhancement Plan (QEP) (2020). Funds utilized to develop K-12 curriculum and provide course material to Upperman High and Prescott Middle School. Total award - \$5,204.

Quality Enhancement Plan (QEP) (2019). Funds allocated to create a new study abroad course that addressed food insecurity issues both locally and globally - \$6,850.

Contributions in Service to the Profession and University

Service to Tech

- Chairperson, International Affairs Committee (2023-present); Faculty Representative - CAHE Curriculum Committee (2023-present); SOA Scholarship & Awards Committee (2019-present);

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Faculty Representative - Tech Honors Council (2023); Faculty Senate Representative (2020-2023); Administrative Council Representative (2020-2023); Representative - textbook policy committee (2020-2021); Co-Chairperson - College of Education - Program Assessment Committee (2020-2022); Representative - College of Education - Teacher Education Committee (2020-2021); Member (2018-2020) Executive Committee – EVS Program; Member (2017-present) – Caplenor Faculty Research Award Committee

Service to Profession (positions held)

- Discussant and Chair (2020) Research Presentation Session at the Annual AAAE Southern Region Research Conference, Louisville, Ky; Faculty Representative – TN FFA Board of Directors

Service to the Profession (Research Paper/Manuscript Reviewer)

- Reviewer (2019-Present) - Transformative Dialogues: Teaching and Learning Journal; American Association of Agricultural Educators (AAAE) (2018-present) – poster and conference paper reviewer; Reviewer (2020-Present) - Journal of Language and Education; Reviewer (2023-present) – MDPI Sustainability Journal

7.1

Dennis Fennewald

Associate Professor, School of Agriculture
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-3251; Email: dfennewald@tntech.edu

EDUCATION

Doctor of Philosophy, Animal Sciences, 2012. University of Missouri, Columbia.

Dissertation: Genotype by environment interactions for growth and stayability in US Red Angus cattle.

Master of Science, Animal and Range Science, 2002. Montana State University, Bozeman.

Project: Methods to reduce morbidity in feeder calves

Bachelor of Science, General Agriculture, 1992. University of Missouri, Columbia.

Professional Registration

American Society of Animal Science, member, 2008 to present

PRIMARY RESEARCH INTERESTS

forage management, regenerative agriculture, animal breeding, sheep improvement, cattle improvement

UNDERGRADUATE COURSE RESPONSIBILITIES*

Course	Semester	Credit Hours
AGR 3940 – Advanced Internship	Summer	3
AGR 4920 – Senior Problem	Fall	3
AGRN 4130 – Forage Crops Prod & Mgt	Spring	3
ANS 2020 – Livestock Management	Fall, Spring	3
ANS 2110 – Livestock Evaluation	Fall	3
ANS 3130 – Animal Breeding	Spring	3
ANS 3310 – Meat, Dairy and Poultry Products	Spring	3
ANS 4110 – Beef Production	Fall, odd	3
ANS 4130 – Sheep Production	Fall, even	3
ANS Special Topics	As Needed	3

MODOLUWAMU IDOWU (Ph.D.)
Assistant Professor, School of Agriculture
Tennessee Tech University

Oakley Hall 133, TTU Box 5034, Cookeville, TN 38505

EDUCATION

Degree in Progress: Doctor of Philosophy, Animal and Food Sciences (August 2021 – present) GPA: 3.75

Dissertation Title: Measures of feed efficiency in beef cattle: Biological basis and effect on response to feed additive supplementation.

West Virginia University, Morgantown, USA

Master of Science, Animal Science (July 2021) Fort Valley State University, Fort Valley, USA

Master of Animal Science (Nutrition and Biotechnology) **GPA: 4.0**

Thesis: Effect of dietary supplementation of peanut skins with and without polyphenols on the performance, rumen fermentation and carcass characteristics of Florida-Native sheep lambs.

Bachelor of Science (Hons), Animal Breeding and Genetics (December 2016)

Magna Cum Laude. **GPA: 4.1/ 5.0**

University of Agriculture, Abeokuta, Ogun state, Nigeria.

Project: Effect of genotype and sex on performance of FUNAAB Alpha Chickens

GRANTS AND CONTRACTS

10/26/2021 – 12/31/2022. Purina Animal Nutrition Inc. Effects of supplementation of RX3-feed additive in the diet of newly weaned beef steers: growth performance, whole-blood immune gene expression, immune response to LPS challenge, and plasma metabolome - **\$256,375.**

Role: Graduate Research Assistant.

Funded WVU Internal Grant Proposal

Davis College Faculty Enrichment Grant: Hepatic mitochondrial function and metabolism in beef cattle with divergent residual feed intake - **\$4,700 (2021-2022).**

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Role: Graduate Research Assistant.

Travel Awards

1. Recipient of a \$1,000 grant from the Stitzel Graduate Student Support for AGR fund (2022).
2. Recipient of a \$1,000 award from the Stitzel Graduate Student Support for AGR fund (2023).

AWARDS AND SCHOLARSHIPS

1. 2024 American Society of Animal Scientist (ASAS) Young Scholar Award
2. 2024 Joseph P. Fontenot Travel Scholarship
3. Presidential Award scholarship, Fort Valley State University. (Jan 2020 - July 2021).
4. Second runner-up at the 2022 Northeast ADSA/ASAS graduate student poster competition, Syracuse, New York. (October 21st, 2022).

PROFESSIONAL EXPERIENCE

Graduate Research Assistant (August 2021 – present)

Division of Animal Sciences West Virginia University
Morgantown, West Virginia, 26505

Graduate Teaching Assistant (August 2022 – present)

Division of Animal Sciences West Virginia University
Morgantown, West Virginia, 26505

Graduate Research Assistant (January 2020 – July 2021)

Division of Animal Sciences Fort Valley State University Fort Valley, Georgia, 31030

Graduate Research Assistant (July 2019 – January 2020)

Division of Food and Animal Science Kentucky State University Land Grant Program Frankfort,
Kentucky, 40601

Livestock Farm Manager (June 2018 – July 2019)

DOTTOFF Farms
Abeokuta, Ogun State, Nigeria

Graduate Teaching Assistant (July 2017 – May 2018)

College of Animal Production and Technology National Veterinary Research Institute

Vom, Plateau state, Nigeria.

PUBLICATIONS

Peer-Reviewed Journal Articles

1. **Modoluwamu Idowu**, Godstime Taiwo, Taylor Sidney, Ibukun Ogunade (2023). The differential plasma and ruminal metabolic pathways and ruminal bacterial taxa associated with divergent residual body weight gain phenotype in crossbred beef steers. *Tran. Anim. Sci.* doi: [10.1093/tas/txad054](https://doi.org/10.1093/tas/txad054)
2. **Modoluwamu Idowu**, Godstime Taiwo, Francisca Eichie, Thomas H. Terrill, Ibukun Ogunade, Andres A. Pech-Cervantes (2023). Effects of dietary supplementation of peanut skins (*Arachis hypogaea*) on performance, digestibility, and rumen fermentation of cattle: A meta-analysis. *Trop. Anim. Health Prod.* Doi: 10.1007/s11250-023-03775-1.
3. **Modoluwamu Idowu**, Godstime Taiwo, Taylor Sidney, Emily Treon, Deborah Ologunagba, Yara Leal, Francisca Eichie, Andres Pech Cervantes, Ibukun Ogunade (2023). Effects of rumen-bypass protein supplement on growth performance, hepatic mitochondrial protein complexes, and hepatic immune gene expression of beef steers with divergent residual feed intake. *PIOS One.* doi: [10.1101/2023.10.19.563076](https://doi.org/10.1101/2023.10.19.563076)
4. Taylor Sidney, Godstime Taiwo, **Modoluwamu Idowu**, Ibukun Amusan, Andres A. Pech- Cervantes, Ibukun Ogunade (2023). Rumen fluid amine/phenol-metabolome of beef steers with divergent residual feed intake phenotype. *Ruminants.* Doi: 10.3390/ruminants3010001.
5. Emily Treon, Taylor Sidney, **Modoluwamu Idowu**, Godstime Taiwo, Deborah Ologunagba, Yara Leal, and Ibukun M. Ogunade (2023). Effects of dietary supplementation of a blend of *Saccharomyces cerevisiae* and multiple live probiotic bacteria on performance, health, and rumen bacterial community of newly weaned beef steers during a 56-d receiving period Manuscript Accepted: ID TAS-2023-1543). *Trans. Anim. Sci.*
6. Francisca Eichie, Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Deborah Ologunagba, Emily Treon, Yara Leal, and Ibukun M. Ogunade (2023). Effects of bovine respiratory disease on the plasma metabolome of beef steers during the receiving period. *Frontiers in Veterinary Science.* [10.3389/fvets.2023.1239651](https://doi.org/10.3389/fvets.2023.1239651)
7. Jorge A. Hidalgo Moreno, Zaira M. Estrada-Reyes, Ibukun M. Ogunade, Andres Alfredo Pech-Cervantes, Thomas Terrill, **Modoluwamu Idowu**, Godstime Taiwo (2023). Estimation of genetic parameters for parasite resistance and genome-wide identification of runs of homozygosity islands in Florida Cracker sheep. *Frontiers in Animal Science.* doi: [10.3389/fanim.2023.1249470](https://doi.org/10.3389/fanim.2023.1249470)
8. Adeoye Oyebade, Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Oscar Queiroz, Adegbola Adesogan, Diwakar Vyas, Ibukun Ogunade Effects of direct-fed microbial supplement on ruminal and plasma metabolome of early-lactation dairy cows: Untargeted metabolomics approach. *Journal of Dairy Science.* doi: [10.3168/jds.2023-23876](https://doi.org/10.3168/jds.2023-23876)
9. **Modoluwamu Idowu**, Deborah Ologunagba, Godstime Taiwo, Taylor Sidney, Emily Treon, Yara

- Leal, Francisca Eichie, Lanre Morenikeji, and Ibukun M. Ogunade (2023). Hepatic mRNA expression of genes related to innate and adaptive immune genes in beef steers with divergent residual body weight gain. (Under review).
10. Godstime Taiwo, Olanrewaju Morenikeji, **Modoluwamu Idowu**, Taylor Sidney, Ajiboye Adekunle, Andes Pech Cervantes, Sunday Peters, and Ibukun M. Ogunade (2023). Characterization of rumen microbiome and immune genes expression of crossbred beef steers with divergent residual feed intake phenotypes. (Under review)
 11. **Modoluwamu Idowu**, Godstime Taiwo, Scott Bowdrige, Andres A. Pech-Cervantes, and Ibukun Ogunade (2022). Effects of a multi-component microbial feed additive containing prebiotics and probiotics on health, immune status, metabolism, and performance of newly weaned beef steers during a 35-d receiving period. *Tran. Anim. Sci.* <https://doi.org/10.1093/tas/txac053>.
 12. Godstime Taiwo, **Modoluwamu Idowu**, Mathew Wilson, and Ibukun M. Ogunade. 2022. Residual feed intake in beef cattle is associated with differences in hepatic mRNA expression of amino acid, fatty acid, and mitochondrial energy metabolism genes. *Frontiers in Vet. Sci.* [10.3389/fanim.2022.828591](https://doi.org/10.3389/fanim.2022.828591)
 13. Godstime Taiwo, **Modoluwamu Idowu**, James Denvir, Andres A. Pech-Cervantes, and Ibukun M. Ogunade (2022). Identification of key pathways associated with residual feed intake of beef cattle based whole blood transcriptome data analyzed using gene set enrichment analysis. *Frontiers in Anim. Sci.* [10.3389/fvets.2022.848027](https://doi.org/10.3389/fvets.2022.848027).
 14. Godstime Taiwo, Taylor Sidney, **Modoluwamu Idowu**, Francisca Eichie, Theodore Karnezos, Ibukun Ogunade (2022). Dietary fenugreek seed extract improves dry matter intake, apparent total-tract nutrient digestibility, and alters whole blood transcriptome of Holstein dairy heifers. *Trans. Anim. Sci.* [10.1093/tas/txac132](https://doi.org/10.1093/tas/txac132)
 15. Adeoye Oyebade, Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Diwakar Vyas, Ibukun Ogunade (2022). A multi-species direct fed microbial supplement alters the milk lipidome of dairy cows. *J. Dairy Sci.* [10.3168/jdsc.2022-0244](https://doi.org/10.3168/jdsc.2022-0244)
 16. Donielle Pannell, Brou Kouakou, Thomas Terrill, Ibukun Ogunade, Zaira Magdalene Estrada- Reyes, Voris Bryant, **Modoluwamu Idowu**, Godstime Taiwo, Andres A. Pech-Cervantes (2022). Adding dried distillers' grains with solubles influences the rumen microbiome of meat goats fed lespedeza or alfalfa-based diets. *Small Rum. Res.* [10.1016/j.smallrumres.2022.106747](https://doi.org/10.1016/j.smallrumres.2022.106747)
 17. Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Olanrewaju Morenikeji, and IbukunM. Ogunade (2021). Urine metabolome reveals candidate biomarkers for divergent residual feed intake in beef cattle. *Urine.* [10.1016/j.urine.2022.04.002](https://doi.org/10.1016/j.urine.2022.04.002)
 18. Godstime Taiwo, **Modoluwamu Idowu**, Shelby Collins, Mathew Wilson, and Ibukun M. Ogunade (2021). Chemical group-based metabolome analysis identifies candidate plasma biomarkers associated with residual feed intake in beef steers. *Frontiers in Animal Sci.* doi.org/10.3389/fanim.2021.783314
 19. I. M. Ogunade, Megan McCoun, **Modoluwamu Idowu**, and S. O. Peters (2020). Comparative

effects of two multi-species direct-fed microbial products on energy status, nutrient digestibility, and ruminal fermentation, bacterial community, and metabolome of beef steers. *J. Anim. Sci.* 98: 9 <https://doi.org/10.1093/jas/skaa201>

- **Google scholar link:** [Modoluwamu Idowu - Google Scholar](#)
- **ResearchGate link:** [Modoluwamu Idowu \(researchgate.net\)](#)

7.1

Conference Research Abstracts and Presentations

1. **Modoluwamu Idowu**, Godstime Taiwo, Taylor Sidney, Ibukun Ogunade*. Metabolic pathway and rumen bacterial taxa associated with divergent residual gain phenotypes. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
2. **Modoluwamu Idowu**, Godstime Taiwo, Taylor Sidney, Emily Treon, Deborah Ologunagba, Yara Leal, Francisca Eichie, Lanre Morenikeji, and Ibukun M. Ogunade*. Effects of rumen- bypass protein supplement on growth performance, hepatic mitochondrial function, and immune gene expression of beef steers with divergent residual feed intake phenotype. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
3. **Modoluwamu Idowu**, Deborah Ologunagba, Godstime Taiwo, Taylor Sidney, Emily Treon, Yara Leal, Francisca Eichie, Lanre Morenikeji, and Ibukun M. Ogunade*. Hepatic mRNA expression of genes related to innate and adaptive immune genes in beef steers with divergent residual body weight gain. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
4. Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Lanre Morenikeji, and I. M. Ogunade. Inflammation- and Immunity-Associated Gene Expression in the Liver and Whole Blood of Crossbred Beef Cattle with Divergent Residual Feed Intake Phenotype. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
5. Yuri Smith, Godstime Taiwo, Ibukun Ogunade, Andres Pech Cervantes, **Modoluwamu Idowu**, Zaira Estrada-Reyes, Thomas Terrill. Nutraceutical Effects of Fertilized and Unfertilized Sericea Lespedeza Hay on Gastrointestinal Parasitism and Whole-Plasma Metabolome of Naturally Infected Goats. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
6. Taylor Sidney, Godstime Taiwo, **Modoluwamu Idowu**, Ibukun Amusan, Andres A. Pech- Cervantes, Ibukun Ogunade*. Rumen Fluid Amine/Phenol-Metabolome of Beef Steers with Divergent Residual Feed Intake Phenotype. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
7. Godstime Taiwo, Taylor Sidney, **Modoluwamu Idowu**, Francisca Eichie, Theodore Karnezos, Ibukun Ogunade. Dietary Fenugreek Seed Extract Improves Dry Matter Intake, Apparent Total Tract Nutrient Digestibility, and Alters Whole Blood Transcriptome of Holstein Dairy Heifers. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
8. Oluwatoyin Osuolale, **Modoluwamu Idowu**, Godstime Taiwo, Francisca Eichie, Thomas H. Terrill, Ibukun Ogunade, Andres A. Pech-Cervantes. Effects of Dietary Supplementation of Peanut Skins

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- (*Arachis hypogaea*) on Performance, Digestibility, and Rumen Fermentation of Cattle: a Meta-Analysis. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
9. Terra Odom, Davia Brown, Chelsea Pulsifer, Thomas Terrill, Niki Whitley, Ibukun Ogunade, Zaira Magdalene Estrada-Reyes, **Modoluwamu Idowu**, Godstime Taiwo. Effect of Dietary Inclusion of Fertilized and Unfertilized *Sericea Lespedeza* Hay on Performance and Plasma Metabolome of Naturally Infected Goats. Location: ASAS/ CSAS/ WSASAS. Albuquerque, New Mexico. July 16-20, 2023.
 10. **Modoluwamu Idowu**, Godstime Taiwo, Taylor Sidney, Francisca Eichie, and Ibukun M. Ogunade. 2022. Effects of a multicomponent microbial feed additive containing prebiotics and probiotics on health, immune status, metabolism, and performance of newly weaned beef steers during a 35-d receiving period. New York City, Syracuse, Dates: October 19-21, 2022. North-East ADSA/ASAS Section 2022.
 11. Godstime Taiwo, **Modoluwamu Idowu**, Taylor Sidney, Francisca Eichie, Emily Treon, Mathew Wilson, Andres Pech-Cervantes, and I. M. Ogunade. 2022. Chemical Group-Based Metabolome Analysis Identifies Candidate Plasma Biomarkers Associated with Residual Feed Intake in Beef Steers. New York City, Syracuse, Dates: October 19-21, 2022. North-East ADSA/ASAS Section 2022.
 12. Taylor Sidney, Godstime Taiwo, **Modoluwamu Idowu**, and Ibukun Ogunade. Selection for low or high residual feed intake is associated with altered rumen fluid amine/phenol metabolome of beef cattle. New York City, Syracuse, Dates: October 19-21, 2022. North-East ADSA/ASAS Section 2022.
 13. **Modoluwamu Idowu**, Godstime Taiwo, Ibukun Ogunade* et. al (2022). Effects of dietary supplementation of *Saccharomyces cerevisiae*-based microbial additive containing fermentation products on health, and performance of weaned beef steers during a 35-d receiving period. Location: ASAS. Oklahoma City, Oklahoma, Dates: June 26-30, 2022.
 14. Godstime Taiwo, **Modoluwamu Idowu**, Shelby Collins, Taylor Sidney, Mathew Wilson, Andres Pech-Cervantes, and I. M. Ogunade. 2022. Candidate plasma biomarkers associated with residual feed intake in beef steers. Location: ASAS. Oklahoma City, Oklahoma, Dates: June 26-30, 2022.
 15. Godstime Taiwo, **Modoluwamu Idowu**, Andres Pech-Cervantes, Zaira M. Estrada-Reyes I. M. and Ogunade. 2022. Hepatic mRNA expression of nutrient and mitochondrial energy metabolism genes in beef steers selected for low or high residual feed. Location: ASAS. Oklahoma City, Oklahoma, Dates: June 26-30, 2022.
 16. Godstime Taiwo, **Modoluwamu Idowu**, Mata Padrino Domingo, James Denvir, and I. M. Ogunade. 2022. Urine metabolome and whole blood transcriptome of beef steers with low or high residual feed intake. Location: ASAS. Oklahoma City, Oklahoma, Dates: June 26-30, 2022.
 17. Godstime A. Taiwo, Oyebade, A.O. **Modoluwamu Idowu**, Diwakar Vyas, and Ibukun M. Ogunade. 2022. A multi-species direct fed microbial supplement alters the milk lipidome of dairy cows. Kansas City, MO, Dates: June 19-22. ADSA 2022.
 18. **Modoluwamu Idowu**, Voris Bryant, Andres A Pech-Cervantes* et. al (2021). Effect of Dietary Supplementation of Peanut Skins with and Without Polyphenols on the Performance, Rumen

Fermentation and Carcass Characteristics of Florida-native Sheep. ASAS. Location: Louisville, KY, Dates: July 16, 2021

19. Voris Bryant, **Modoluwamu Idowu**, Andres A Pech-Cervantes* et. al (2021). Effect of pre- slaughter transport stress on carcass weight, rumen fermentation and bacterial community of growing goats. ASAS. Location: Louisville, KY, Dates: July 15, 2021
20. I. M. Ogunade, Megan McCoun, **Modoluwamu Idowu**, and S. O. Peters (2020). Comparative effects of two multi-species direct-fed microbial products on energy status, nutrient digestibility, and ruminal fermentation, bacterial community, and metabolome of beef steers. ASAS. Virtual Meeting July 20, 2020
21. **Modoluwamu Idowu**, Voris Bryant, Andres A Pech-Cervantes* et. al (2021). Effect of homofermentative and heterofermentative bacterial inoculants on quality, fermentation, and digestibility of alfalfa-bermudagrass mixture ensiled in the summer. ADSA. Virtual Meeting. July 12, 2021.

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STUDENTS MENTORSHIP

Graduate students

1. Deborah Ologunagba, Master’s student. **January 2023- Present**. “Hepatic mRNA expression of genes related to innate and adaptive immune genes in beef steers with divergent residual body weight gain”.

Undergraduate students

2. Steven Williams, undergraduate research scholar. **January 2022 – Present**. “Effects of dietary supplementation of a rumen-protected amino acid additive in beef steers with divergent RFI phenotype”
3. Jordan McCoy, undergraduate research scholar. **January 2022 – Present**. “Effects of dietary supplementation of a rumen-protected amino acid additive in beef steers with divergent RFI phenotype”

PROFESSIONAL AFFILIATIONS

1. Member, American Society of Animal Science (2020 – Present).
2. Member, American Dairy Science Association (2020 – Present).

PROFESSIONAL MEETINGS ATTENDED

1. ASAS/CSAS. Location: Louisville, KY, Dates: July 14 -17, 2021
2. ADSA Virtual Meeting. July 11-14, 2021
3. ASAS/CSAS. Location: Oklahoma City, Oklahoma, Dates: June 26-30, 2022.

4. ADSA. Location: Kansas City, Missouri, Dates: June 19-22, 2022
5. North-East ADSA/ASAS Section 2022. Syracuse, New York. Dates: October 19-21, 2022.
6. Southern Section ASAS 2023. Raleigh, North Carolina. Dates: January 21-24, 2023.
7. ASAS/CSAS. Location: Albuquerque, NM, Dates: July 16 -20, 2023

RESEARCH ACTIVITIES

- Conducted metabolomics studies and analyses on plasma, rumen fluid, and urine samples of beef steers, WVU.
- Applied RNA-sequencing analysis to whole blood samples at WVU Genomics Core Facility.
- Executed mitochondrial analysis of bovine liver samples at Mitochondria Functional Assessment Core, WVU Health Sciences.
- Performed molecular studies including RNA extraction, PCR, and Real-Time PCR on whole blood and liver tissue samples.
- Investigated the effects of a multi-component blend of prebiotics and probiotics on health, immune status, metabolism, and performance of newly weaned beef steers.
- Utilized advanced metabolomics techniques, including ruminal and plasma metabolomics and ruminal 16S rRNA gene sequencing, to elucidate metabolic pathways and bacterial taxa associated with diverse residual body weight gain phenotypes in crossbred beef steers.
- Identified blood metabolic signatures linked to residual feed intake in beef cattle through chemical group-based metabolomics.
- Employed whole blood transcriptome analysis and gene set enrichment analysis to uncover pathways associated with divergent selection for low or high residual feed intake (RFI) in beef cattle.
- Investigated the impact of dietary supplementation of Bacillus-based microbial additives and rumen-protected amino acids in beef steers with divergent RFI phenotypes.
- Analyzed amine/phenol-metabolome of urine samples to identify urinary metabolic biomarkers associated with residual feed intake in beef cattle.
- Explored whole blood and hepatic mRNA expressions of immune genes and rumen microbiome in crossbred beef steers to unveil biological processes underlying feed efficiency.
- Conducted studies evaluating the mRNA expression of genes involved in hepatic fatty acid, amino acid, and mitochondrial energy metabolism in crossbred beef steers with divergent low and high RFI.
- Evaluated the effects of supplementing fenugreek seed extract as a source of saponins on various parameters in Holstein dairy heifers.
- Investigated the effects of supplementing a multi-species direct-fed microbial (DFM) on the

milk lipidome of lactating dairy cows.

- Analyzed the amine/phenol-metabolome of rumen fluid to identify amino acid metabolism-related biomarkers associated with phenotypic selection for low or high residual feed intake (RFI) in beef cattle.
- Investigated the impact of Bovine Respiratory Disease (BRD) on the metabolism of beef steers during a 35-day receiving period using plasma metabolomics.
- Acquired Liquid Chromatography-Mass Spectrometry training at the Proteomic Core Facility, WVU Chemistry Department.
- Conducted metabolic assessment of plasma and serum samples using Idexx machine at WVU research farm.

Collection of blood samples from lambs fed peanut skins with and without polyphenol compounds extracted for blood metabolite analysis.

- Estimation of meat quality and shelf life of meat of lambs fed peanut skins with and without polyphenol compounds extracted.
- Estimated the magnitude of effects of the dietary inclusion of peanut skins (*Arachis hypogea* L.) byproduct on intake, total-tract digestibility, and rumen fermentation of cattle via meta-analysis.
- Evaluated the effects of pre-slaughter transport stress on the rumen fermentation and bacterial community of growing meat goats.
- Evaluated the effect of replacement of corn and soybean meal (SBM) with dried distillers' grains with solubles (DDGS) in sericea lespedeza (SL; *Lespedeza cuneata*) and alfalfa (*Medicago sativa*)-based diets on ruminal fermentation and bacterial community of growing meat goats
- Created mini-silos to observe effects of homofermentative and heterofermentative bacterial inoculants on the quality, fermentation, and *in vitro* digestibility of an alfalfa-bermudagrass mixture ensiled during summer.
- Evaluated the effects of pre-slaughter transport stress on the rumen fermentation and bacterial community of growing meat goats.

SKILLS

- Metabolomics Data Analysis: Proficient in processing and interpreting metabolomics data to uncover meaningful insights into biological processes.
- Microbial Community Analysis (16S rRNA Sequencing): Skilled in utilizing 16S rRNA sequencing to investigate microbial communities and their impact on various biological systems.
- Working knowledge of R-programming
- Transcriptomics and Proteomics Data Analysis: Adept at analyzing high-throughput transcriptomics and proteomics data to uncover valuable biological information.

- Bioinformatic Tools: Well-versed in utilizing bioinformatic tools such as Gene Ontology (GO), PANTHER, ShinyGO, DAVID, and Ingenuity Pathway Analysis to interpret complex biological data.
- Genomics (RNA Isolation, cDNA synthesis, Gene expression, Real time PCR)
- Molecular Techniques: Skilled in various molecular techniques, including DNA extraction, RNA isolation, Real-Time PCR, and cDNA synthesis, enabling comprehensive genetic analysis.
- Data Collection and Management: Highly skilled in systematic data collection, organization, and management to facilitate accurate and efficient analysis.
- Laboratory Techniques and Equipment Operation: Demonstrated expertise in a wide range of laboratory techniques and equipment operation, ensuring precise and reliable results.
- Detail-Oriented Personality: Known for meticulous attention to detail, ensuring accuracy and rigor in all aspects of research and analysis.
- Independent Experimental Design: Proven ability to independently design experiments and resolve technical challenges to drive successful outcomes.
- Effective Communication and Collaboration: Exceptional communication skills to interact collaboratively with colleagues, share findings, and contribute to productive working relationships.
- Microsoft office skills (Excel, Word, Powerpoint)
- Liver Biopsy in Cattle
- Qiagen QIAcube Connect Applications Training
- Creating experimental silage mini silos
- Jugular venipuncture and tail vein blood sampling
- Rumen fluid sampling
- Ability to effectively communicate, understand, and interact with others respectfully and develop productive working relationships.

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UNIVERSITY AND COMMUNITY SERVICE

- Member, Davis College Graduate Student Association (2021-present).
- Member, African Student Association (2020-present).
- Bass and rhythm guitarist for local church choir (2019-present).
- Providing transportation and shelter to newly admitted international students.

Jinho Jung

ACADEMIC APPOINTMENT

Assistant Professor Aug, 2023 – Current
School of Agriculture, Tennessee Tech University, Cookeville, TN

EXTERNAL AFFILIATION

Research Associate Nov, 2021 – Current
Center for Food Demand Analysis and Sustainability. Dept. of Agricultural Economics, Purdue University, West Lafayette, IN

EDUCATION

Ph.D., Agricultural Economics August, 2020
Purdue University, West Lafayette, IN, USA
Dissertation: Spatial Differentiation and Market Power in Input Procurement: Evidence from a Structural Model of the Corn Market
- Major Advisor: Dr. Juan P. Sesmero

M.Sc., Agricultural Economics May, 2014
Purdue University, West Lafayette, IN, USA
- Thesis: Economic and Policy Analysis for Solar PV Systems in Indiana
- Major Advisor: Dr. Wallace E. Tyner

B.Sc., Metallurgical Engineering February, 2010
Yonsei University, Seoul, Republic of Korea, South

WORKING EXPERIENCES

Research Associate Nov, 2021 - Current
Dept. of Agricultural Economics, Purdue University, West Lafayette, IN

Center for Food Demand Analysis and Sustainability. Dept. of Agricultural Economics, Purdue University, West Lafayette, IN

Research Fellow Aug, 2020 – Oct, 2021
Dept. of Agrifood Systems Research, Korea Rural Economic Institute, Naju, Republic of Korea, South

Research Assistant 2014 – 2020
Dept. of Agricultural Economics, Purdue University, West Lafayette, IN

Teaching Assistant
AGEC 429: Agribusiness Marketing Spring, 2019
Dept. of Agricultural Economics, Purdue University, West Lafayette, IN

7.1

Military Service (Private – Sergeant) 2006 – 2008
The United States Forces Korea (USFK), 2nd Infantry Division, Camp Hovey,
Dongducheon, Republic of Korea, South

- KATUSA (Korean Augmentation To the United States Army) soldier, See
<https://8tharmy.korea.army.mil/site/about/katusa-soldier-program.asp>
https://www.army.mil/article/161692/katusas_take_final_steps_of_military_service

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FIELDS OF CONCENTRATION Ph.D., Agricultural Business, Industrial Organization, Structural Estimation
M.Sc., Energy, Resource, and Environmental Economics

CURRENT RESEARCH INTEREST Market Structure in Agricultural and Food Markets
Market Structure along Food Supply Chains
Pricing Strategy in Online Grocery Markets
Consumer Behavior
Food Safety
Big Data Analytics: Web-Scraping, Social Media Analytics
Forecasting with Machine Learning

TEACHING Economics of Agriculture. Undergraduate (Sophomore.) Fall 2023, Spring 2024
Agribusiness Marketing. Undergraduate (Junior). Fall 2023.
Agricultural Business Management. Undergraduate (Junior). Fall 2023.

PUBLICATIONS Bir, C., Jung, J., Tao, T., Widmar, N. O. 2023. Online Grocery Shopping Practices and Intentions Shaped by Pandemic-Era Experiences. Journal of Food Distribution Research. In Press

Ellman, B., Bir, C., Jung, J., Widmar, N. O., Foster, K. 2023. # Buzz: Exploring Public Interest in Pollinators, Bees, and Honey Using Online Media Data. Telematics and Informatics. 102000

Jung, J. Widmar, N. O., Ellison, B. 2023. The Curious Case of Baby Formula in the United States in 2022: Cries for Urgent Action Months after Silence in the Midst of Alarm Bells. Food Ethics. 8(1), 4.

Jung, J., Tao, J., Widmar, N. O. 2022. Quantifying “Local Food” Online and Social Media in the United States for 2018 – 2021. Agriculture and Food Security. 11(1), 1-13.

Jung, J., Widmar, N. O., Subramani, S., Feng, Y. 2022. Online media attention devoted to flour and flour-related food safety in 2017-2020. *Journal of Food Protection*. 85(1), 73-84.

Jung, J., Sesmero, J. P., Siebert, R. 2021. "Spatial Differentiation and Market Power in Input Procurement: Evidence from a Structural Model of the Corn Market". *American Journal of Agricultural Economics*. 104(2), 613-644.

Jung, J., Bir, C., Widmar, N. O., Sayal, P. 2021. "Initial reports of foodborne illness drive more public attention than food recall announcements". *Journal of Food Protection*. 84(7), 1150-1159.

Jung, J., Sesmero, J. P. Siebert, R. 2020. "Spatial Differentiation and Market Power in Input Procurement: Evidence from a Structural Model of the Corn Market". CESifo Working Papers, No. 8088.

SUBMITTED PAPERS

Kim, Y., Jung, J., Yu, K., Kim, S., and Widmar, N. O. "Delivery Applications Drive Restaurant Business More Competitive with Price Convergence: A Case of South Korea with Web Scraping and Network Analysis". Under Review by *International Food and Agribusiness Management Review (IFAMR)*

Jung, J., Widmar, N. O., and Lusk, J. "Societal Implications of Personalized Pricing in Online Grocery Shopping". Revised and Resubmitted by *Food Ethics*.

WORKING PAPERS

Jung, J., Sesmero, J. P. and Siebert, R. "Using Pre- and Post-Entry Data to Identify the Effect of Ethanol Expansion on the Spatial Pattern of Corn Prices: A Study in Indiana". *Target Journal: American Journal of Agricultural Economics*. Close to Submit

Jung, J., Sesmero, J. P. and Siebert, R. "The Effect of Spatial Market Structure and Competition Among Ethanol Plants on the Spatial Pattern of Corn Prices: A Study in Indiana". *Target Journal: American Journal of Agricultural Economics*.

Jung, J., Lusk, J., and Balagtas, J. "Food prices and its dispersion using Web Scraped Data." *Target Journal: Review of Economics and Statistics*.

Jung, J., Kim, Y., Lusk, J., Seibert, R., and Widmar, N. "Spatial Pricing Differentiation of Fast-Food Restaurant; A Study with Web-Scraped Data from Delivery Service Platform." *Target Journal:*

Jung, J., Kim, Y., Widmar, N. O., Lusk, J. "Three on Delivery Fee and Four on Menu Price. Pricing Strategy of Restaurant Business with Delivery Application". Target Journal: Agribusiness

Jung, J., Kim, Y., Kim, S. Widmar, N. O., and Lusk, J. "Sales-Weighted Online Agricultural Commodity Price Index: Using Sales and Price Data web-scraped from Online Grocery Stores in South Korea". Target Journal: Applied Economic Perspectives and Policy

Jo, J., Lusk, J., Adjemian, M., and Jung, J. "Food Price Forecasting with Volumes and Sentiment of Social Media: An Approach of Bayesian Structural Time Series with Machine Learning". Target Journal: International Journal of Forecasting

Jung, J., Kim, Y., Kim, S., Yu, K., Suh, T. "Estimating the Degree of Market Power in the Fruits and Vegetable Wholesale Market in Korea". Target Journal: Agricultural and Resource Economics Review

Jung, J., Sesmero, J. P., Siebert, R. "The Dynamic Response of Local Corn Prices to Ethanol Plant Entry: Implications for Short- and Long-run Corn Supply Elasticities". Target Journal: Applied Economic Perspectives and Policy

WORK IN PROGRESS

"Price Dispersion, Chain and Regional Heterogeneity, and Search in Online Grocery Markets in the US"

"Breadth and Depth of Promotional Strategies of Online Grocery Retailers in the US"

"Spatial Market Structure of Restaurant Business with Delivery Application: A Case from the US based on Web-Scrapped Data"

"Free-Range or Conventional Eggs? Consumers' Switching Behavior between Free-Range and Conventional eggs using Web-Scrapped Data from Korean Online Grocery Stores on Price and Sales."

"Nowcasting Food Prices with a Massive Amount of Online Grocery Price and Sales Data"

"Are Customers Really More Elastic in Online Grocery Stores? Estimation of Price Elasticity of Demand in Online Grocery with Web-Scrapped Data"

“Price Dispersion between Offline and Online Grocery Stores of the Grocery Retailers: A Case Study using Web-Scraped Data”.

**INVITED
CONFERENCE
PRESENTATION**

The 2023 AAEA Annual Conference, Washington D.C. July, 2023. “Using Pre- and Post-Entry Data to Identify the Effect of Ethanol Expansion on the Spatial Pattern of Corn Prices: A Study in Indiana.”

**CONFERENCE
PRESENTATIONS**

AAEA Annual Conference, Washington D.C. July, 2023. “Spatial Differentiation in Pricing Strategy of Restaurant Business: An Explorative Study with Network Analysis based on Web-Scrapped Data from a Delivery Application.”

AAEA Annual Conference, Washington D.C. July, 2023. “Predicting Food Prices Using Data from Consumer Surveys and Consumer Behaviors in Online Spaces.”

AAEA Annual Conference, Anaheim, CA. August, 2022. “Sales-Weighted Online Agricultural Commodity Price Index: Using Sales and Price Data web-scraped from Online Grocery Stores in South Korea.”

**STUDENT
SUPERVISION**

Maria Berikou, MS. 08/2023, Committee Member

7.1

Brian Leckie

Assistant Professor, School of Agriculture
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-6131; Email: bleckie@tnitech.edu

EDUCATION

December 2008 The University of Tennessee, Knoxville, TN
 Doctor of Philosophy in Plants, Soils, and Insects
 Concentration: Plant Molecular Genetics

Dissertation title: Plant improvement for insect resistance: Testing of the candidate organism *Beauveria bassiana*, transgenic tobacco expressing protease inhibitors, and rapid screen of insect resistance genes in an agroinfiltration transient expression system

May 2002 The University of Tennessee, Knoxville, TN
 Master of Science in Entomology and Plant Pathology

Thesis title: Effects of *Beauveria bassiana* mycelia and metabolites incorporated into synthetic diet and fed to larval *Helicoverpa zea*; and detection of endophytic *Beauveria bassiana* in tomato plants using PCR and ITS primers

December 1998 The University of Tennessee, Knoxville, TN
 Bachelor of Science in Ecology and Evolutionary Biology

PRIMARY RESEARCH INTERESTS

Genomics enabled vegetable improvement for increased sustainability in agriculture. Current projects include those in heirloom green beans, summer squash, and fresh market tomatoes.

UNDERGRADUATE COURSE RESPONSIBILITIES

Course	Semester	Credit Hours
AGRN 1100: Plant Science	Every Semester	3
AGRN 4120: Crop Improvement	Spring, Even Years	3
AGRN 4100: Weed Science	Fall, Odd Years	3
AGHT 4950: High Tunnel Greenhouse Production	As Needed	3
AGRN 4940: Agronomic Pests and Diseases	Fall, Even Years	3

7.1

Dr. Abdul Momin

Assistant Professor
 School of Agriculture
 Tennessee Technological University
 P. (931) 372-3154 E. momin@tntech.edu

Education and Training

Institution	Area of study	Degree	Awarded (M/Y)
Bangladesh Agricultural University	Agricultural Engineering	BSc	08/2004
Bangladesh Agricultural University	Agricultural Engineering	MS	06/2006
Kyoto University	Biosensing Engineering	PhD	03/2013
North Dakota State University	Biomass Utilization	Postdoctoral	05/2015
University of Illinois	Precision Agriculture	Postdoctoral	12/2017
University of California, Davis	Postharvest Engineering	Postdoctoral	02/2020

Areas of Research Interest

- Precision agriculture
- Postharvest technologies: drying/storage/quality
- Spectroscopic measurement techniques & analysis
- Computer vision and image processing
- Bioinstrumentation and biosensing
- High throughput in-field phenotyping

Technical Skills

- Microsoft Suite (Word, Excel, PowerPoint, Outlook)
- MATLAB: image processing, data analysis
- National Instruments LabVIEW and CompactRIO
- Microsoft Visual C++ & OpenCV: Image processing
- SAS University Edition
- Project management
- QGIS: analysis of geospatial data
- PLS Toolbox: Model development
- The Unscrambler: Camo-Analysis
- Python

Undergraduate Course Responsibilities

Course	Semester	Credit
AGR 1020 Connections to Agriculture	Fall	1
AGET 3520 Agricultural Spatial Technology	Fall	3
AGET 3540 Application of GIS and GPS in Agriculture and Natural Resources	Spring	3
AGET 4220 Agri Machinery/Tractors	Spring	2
AGET 4225 Agri Machinery/Tractors Lab	Spring	1
AGET 4620 Agricultural Structures,	Fall	3
AGET 4850 Engineering Tech Design	Spring	3

Synergistic Activities

Teaching and student supervision

- Teaching a variety of Agricultural Engineering courses at university level for more than 10 years.
- Supervising undergraduate and graduate student research projects and evaluating their works.

Peer Reviewer

- Served as a peer reviewer for several prestigious journal publishers in the field of agricultural engineering and technology
- Served as a panel peer reviewer for USDA National Institute of Food and Agriculture (NIFA) project proposals

Project Principal Investigator

- Spatial variability of rice and soybean yield assessment using low-cost precision agriculture technologies funded by NIFA Research Capacity Fund (Evans-Allen)
- Adaptation of BAU-STR dryer for postharvest loss reduction and livelihood improvement of underserved communities funded by LASERPULSE and USAID.
- Development of a computer vision system for grading mango funded by TWAS-COMSTECH joint research grants, The World Academy of Science

Project Co-Principal Investigator

- Post-harvest loss reduction lab (PHLIL) Bangladesh Component funded by USAID and ADM Institute for the prevention of Post-Harvest Loss, University of Illinois, USA.

Awards

- Received “Elsevier Reviewer Recognition Award” for outstanding contribution to reviewing papers.
- Received “Young Researcher’s Academic Encouragement Award” from the JSAM

Other leadership activities

- Served as session chair in 2015 ASABE Intersectional Meeting Sponsored by ASABE Fargo, ND.
- Organized lab biweekly group meeting and monthly seminar at Biosensing engineering laboratory, Kyoto University, Japan from January 2010-December 2012.

Profession Memberships

- Fellow (M/22314), Inst. of Engineers’ Bangladesh
- American Society of Agricultural and Biological Engineers (ASABE) member ID # 1051309
- The Japanese Society of Agricultural Machinery (JSAM) member ID # 3001

Selected Publications (last five years)

- 1 Momin, A., Kondo, N., Al Riza, D.F., Ogawa, Y., Obenland, D. 2023. A Methodological Review of Fluorescence Imaging for Quality Assessment of Agricultural Products. Agriculture 2023, 13, 1433. <https://doi.org/10.3390/agriculture13071433>

- 2 Rahman, M.B., Chakma, J.D., Momin, A., Islam, S., Uddin, A, Islam, A., Aryal, S. 2023. Smart crop cultivation system using automated agriculture monitoring environment in the context of Bangladesh Agriculture. *Sensors* 2023, 23, 8472. <https://doi.org/10.3390/s23208472>
- 3 Martins Crispi G, Valente DSM, de Queiroz DM, Momin A, Fernandes-Filho EI, Picanço MC. Using Deep Neural Networks to Evaluate Leafminer Fly Attacks on Tomato Plants. *AgriEngineering*. 2023; 5(1):273-286. <https://doi.org/10.3390/agriengineering5010018>
- 4 Dien, A., Momin, M. A., Ying, T., Spang, E., Kornbluth, K., Irwin, D.G. 2022. Performance evaluation of a commercially available desiccant-based seed drying system (FlexiDry®) using corn kernels (Zea Mays), *Journal of the ASABE*, 65(3): 633-643. (doi:10.13031/ja.14762)
- 5 Louis, L., Bruno T., James, T., Lizzie, S., Momin, MA, Spyros, F., Luigi, M., Yiannis, A., Schueller, JK., and Raj K. 2022. Yield sensing technologies for perennial and annual horticultural crops: a review. *Precision Agric* (2022). <https://doi.org/10.1007/s11119-022-09906-2>
- 6 Donis-González, I.R., Valero, C., Momin, M.A., Kaur, A. Slaughter, D. Performance Evaluation of Two Commercially Available Portable Spectrometers to Non-Invasively Determine Table Grape and Peach Quality Attributes. *Agronomy* 2020, 10(1), P.148. <https://doi.org/10.3390/agronomy10010148>
- 7 Edward, S., Laura, M., Sara, P., Yigal, A., Irwin D.oG., Wendi G., Madison, J., Momin, M.A., Tom, Q., Kiara, W., Thomas, T. Food Loss and Waste: Measurement, Drivers, and Solutions, *Annual Review of Environment and Resources*, Vol. 44, pp. 13.1–13.40, 2019. <https://doi.org/10.1146/annurev-environ-101718-033228>
- 8 Momin, M. A., Grift, T. E., Valente, S., and Hansen, A. Sugarcane yield mapping based on vehicle tracking, *Precision Agric* 20: 896, 2019. <https://doi.org/10.1007/s11119-018-9621-2>
- 9 Valente, S., Momin, M. A., Grift, T., Hansen., A. Accuracy and precision evaluation of two low-cost RTK Global Navigation Satellite Systems, *Computers and Electronics in Agriculture*, Vol. 168, No. 105142, 2019. <https://doi.org/10.1016/j.compag.2019.105142>
- 10 Hao, G., Sunil, M., Momin, M. A., Brendan K., Neal S., Hansen, A. Grift, T. Effects of three cutting blade designs on energy consumption during mowing-conditioning of *Miscanthus Giganteus*, *Biomass and Bioenergy*, Vol. 109, pp. 166-171, 2018. <https://doi.org/10.1016/j.biombioe.2017.12.033>

Michael Natrass

Assistant Professor, School of Agriculture
 Tennessee Tech University
 College of Agriculture and Human Ecology
 Phone: (931) 372-3218; Email: mnatrass@tntech.edu

EDUCATION

Doctor of Philosophy, Plant and Soil Sciences, 2020. Mississippi State University

- Dissertation: Evaluation of constructed wetland phytoremediation of selenium-impacted runoff

Master of Science, Agronomy, 2016. Mississippi State University

- Thesis: Stabilized urea fertilizer effects on corn nitrogen use efficiency and soil nitrogen transformations

Bachelor of Science, Agriculture Science, 2012. Mississippi State University

PRIMARY RESEARCH INTERESTS

Nutrient management in cropping systems; unmanned aerial systems and multispectral imaging; water quality

UNDERGRADUATE COURSE RESPONSIBILITIES*

Course	Semester	Credit Hours
AGR 1020 - Connections to Agriculture	Fall, All Years	3
AGRN 1100 - Plant Science	Spring & Fall	3
AGRN 2400 - Introduction to Soils	Spring & Fall	3
AGRN 2415 - Intro to Soils Lab	Spring & Fall	1
AGRN 3020 - Crops in Sustainable Systems	Spring, Even Years	3
AGRN 3100 - Turfgrass Management	Fall, Even Years	3
AGRN 3350 - Soil and Water Conservation	Spring, Odd Years	3
AGRN 3400 - Crop Pests & Diseases	Spring, Odd Years	3
AGRN 3600 - Unmanned Aerial Systems	Fall, Odd Years	3
AGRN 4120 - Crop Improvement	Fall, Even Years	3
AGRN 4210 - Soil Fertility & Fertilizers	Fall, Odd Years	3
AGRN 4220 – Environmental Soil Chemistry	Spring, Odd years	3
AGRN Topics	As Needed	

7.1

Lianqun Sun (Lansing)

Assistant Professor

School of Agriculture, Tennessee Tech University

Oakley Hall 142
 1 Williams L. Jones Drive
 Cookeville, TN 38505

Email: lsun@tnitech.edu
sunlq86@gmail.com
 Phone: 931-372-3155

7.1

Education

Ph.D. in Agricultural and Applied Economics

Texas Tech University, *Lubbock, TX, USA* Aug. 2016 – Aug. 2021
 Advisor: Professor Benaissa Chidmi

M.S. in Economics

Utah State University, *Logan, Utah* Aug. 2014 – May. 2016

M.S. in Financial Economics

Utah State University, *Logan, Utah* Aug. 2012 – Aug. 2013

B.S. in Economics

Utah State University, *Logan, Utah* Sept. 2005 – Jun. 2009

Research Experiences

Postdoctoral Research Associate

Delta Research and Extension Center, Mississippi State University Nov. 2021 – Sep. 2024
Stoneville, MS
Funding: USDA-SRAC
Supervisor: Professor Ganesh Kumar,
 Dr. Carole Engle

Research Assistant

Department of Ag. & Applied Economics, Texas Tech University Aug. 2016 – Aug. 2021
Lubbock, Texas
Advisor: Professor Benaissa Chidmi

Research Associate

Strata, Utah State University Sep. 2014 – Aug. 2016
Logan, Utah
Supervisor: Dr. Ryan Yonk

Teaching and Mentoring Experiences

Postdoctoral Research Associate

Delta Research and Extension Center, Department of Wildlife,
 Fisheries, and Aquaculture, Mississippi State University Nov. 2021 – Sep. 2024
Stoneville, MS

- Completion of Online Teaching 101: Best Practices in Online Instruction (April, 2024)
- Volunteered as judge for CALS/MAFES Spring Undergraduate Symposium (April, 2024)
- Participated in *Program for Future Faculty* (PFF) teaching training (2022-2023)

- Selected as 2022 Southeastern Conference (SEC) Emerging Scholars Career Preparation Workshop in University of Missouri

- Served as judge for 8 students’ oral presentations in WAS conference (2023, 2024)

Research Assistant

Aug. 2016 – Aug. 2021

Department of Ag. & Applied Economics, Texas Tech University

Lubbock, Texas

- Mentored three undergraduate students through the Mentor Tech program
- Taught undergraduate optimization classes for Professor. Ryan Williams

Teaching Assistant

Sep. 2014 – Aug. 2016

Economics and Finance Department, Utah State University

Logan, Utah

- Teaching Assistant for Dr. Israelsen (international trade).
- Teaching Assistant for Professor James Feigenbaum (Graduate level course ECN5020)

7.1

Publications

1. **Sun, L., Kumar, G., & Engle, C. (2024).** Factors influencing seafood sales in U.S. retail markets, *Journal of the World Aquaculture Society*. (peer review)
2. Kumar, G., Hedge, S., Aarattuthodi, S., Bosworth, B., **Sun, L.,** & Steensma, N. (2024). Effect of carryover biomass of channel catfish in intensively aerated multiple-batch production. *Aquaculture*. (peer review)
3. **Sun, L.,** Engle, C. R., Kumar, G., & van Senten, J. (2023). Supermarket trends for rainbow and steelhead trout products: Evidence from scanner data. *Aquaculture Reports*, 30, 101579.
4. Kumar, G., Engle, C., van Senten, J., **Sun, L.,** Hegde, S., & Richardson, B. M. (2023). Resource productivity and costs of aquaculture practices: Economic-sustainability perspectives from US catfish farming. *Aquaculture*, 574, 739715.
5. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. (2022). Retail market trends for seafood in the United States. *Journal of the World Aquaculture Society*, 54(3), 603-624.
6. **Sun, L.,** Kumar, G., Engle, C., & van Senten, J. (2022). Trends for US catfish and swai products in retail markets. *Aquaculture Economics & Management*, 27(4), 544-568.
7. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. (2024). Analysis of demographic characteristics for seafood consumption in major cities by using Home Scanner Data, *Aquaculture Economics & Management*. (to be submitted)
8. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. (2024). Analysis of catfish supply model and major factors that affect catfish supply, *Aquaculture Economics & Management*. (to be submitted)

Presentations

1. **Sun, L.,** Kumar, G. Feb. 2024
Title: Factors influencing the U.S. catfish supplies (Oral)
2. **Sun, L.,** Kumar, G. Feb. 2024
Title: Exploring elasticity patterns among major finfish products in the U.S. retail market (Oral)
3. **Sun, L.,** Kumar, G. Feb. 2024
Title: Retail price indices for major seafood species in the U.S. retail market (Oral)
4. **Sun, L.,** Kumar, G. Feb. 2024

- Title: Characteristics of the U.S. seafood consumers: perspectives based on home scanner data (Oral)
5. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. Mar. 2023
 Title: Retail market trends for U.S. catfish and swai products (Oral)
World Aquaculture Society, Annual Meeting, New Orleans, LA, USA
 6. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. Mar. 2023
 Title: U.S. retail market trends for trout products (Oral)
 World Aquaculture Society, Annual Meeting, New Orleans, LA, USA
 7. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. Mar. 2023
 Title: U.S. Retail Market Trends for Tilapia Products (Oral)
 World Aquaculture Society, Annual Meeting, New Orleans, LA, USA
 8. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. Mar. 2023
 Title: Factors influencing U.S. retail seafood market sales (Oral)
 World Aquaculture Society, Annual Meeting, New Orleans, LA, USA
 9. **Sun, L.,** Engle, C., Kumar, G., & van Senten, J. Nov. 2022
 Title: Retail market trends for seafood in the United States (Oral)
 World Aquaculture Society, Annual Meeting, San Diego, CA, USA
 10. **Sun, L.,** Kumar, G., Engle, C., & van Senten, J. Mar. 2022
 Title: Trends for U.S. Catfish and Swai Products in Retail Markets (Oral)
 NWAC Fall Seminar Agenda, Annual Meeting, Stoneville, MS, USA
 11. **Sun, L.,** Chidmi, B., Williams, R. Feb. 2019
 Title: Comparing the Eco-labeled Household Cleaners and Conventional Ones from Demand Side Analysis
Southern Agricultural Economics Association Annual Meeting, Birmingham, Alabama, USA
 12. **Sun, L.,** Williams, R. Feb. 2018
 Title: Economic Valuation for Groundwater resource in Southern Ogallala Aquifer
Southern Agricultural Economics Association Annual Meeting, Jacksonville, Florida.
 13. Yonk, R., Stevens, L., Wardle, A. R., Hall, J.C. Apr. 2016
 Title: The Economic Impact of the Renewable Fuel Standard on Corn Belt Counties
The Association of Private Enterprise Education Conference (APEE), Las Vegas, Nevada.
 14. Sun, L., Gory, D. Apr. 2015
 Title: How high school performance affects college success (Poster)
The Association of Private Enterprise Education Conference (APEE), Cancun, Mexico.

Honors and Awards

-
- Top Downloaded Article of Journal of the World Aquaculture Society 2024
 - Southeastern Conference’s (SEC) Emerging Scholars Sep. 2022
University of Missouri, Columbia, MA, USA
 - Charles Koch Fellowship (\$5000) May 2015
Strata, Utah State University, Logan, Utah
 - China Cooperative Academic Program (CCAP) Scholarship (\$20,920) Aug. 2012
Utah State University, Logan, Utah

- National Scholarship for Encouragement (~\$700)
Northeast Electric Power University, Jilin, China Aug. 2008
- Outstanding Student Award (five times)
Northeast Electric Power University, Jilin, China 2005-2009

Volunteer and Community Activities

- MSU-DREC Catfish Cooking Team for annual Delta Council Day, MS Jun. 2024 (3)
- Mississippi River Marathon, MS Feb. 2024 (3)
- Delta Center Stage (*Greenville*), MS 2023-2024
- 2023 Greenville Mid-Delta Airshow (*Greenville*), MS Sep. 2023(2)
- 2023 Future Tour Championship for Golf Tournament (*Greenville*), MS Jun. 2023
- International Culture Event at Mississippi Valley State University (*Itta Bena*), MS Apr. 2023
- Habitat for Humanity (*Greenville*), MS Sep. 2022

7.1

Appendix III

Existing Graduate Course Syllabi

7.1

TENNESSEE TECH UNIVERSITY

School of Agriculture

AGED 5200-Methods of teaching Agricultural & Extension Education

7.1

3 Credit Hours

Instructor Information

Instructor's Name: Dr. Dennis Duncan

Telephone Number: 931-372-3418 or 706-224-2692

Email: dduncan@tntech.edu

Office: Oakley Hall 215A

Office hours: Office Hours by appointment

Course Information

Prerequisites

Must be accepted into the teacher preparation program.

Course Description

Theory and practice in directing learning activities; planning and delivering instruction to formal and informal groups in Agricultural and Extension Education; preparing instructional materials; using instructional technology. The course will be based off of the Agriscience standards in order for the pre-service teachers to gain experience teaching Agriscience.

Course Objectives/Student Learning Outcomes

Learning Outcomes:

The overall objective of this course is to help prepare future Agricultural Education teachers and Extension agents to provide effective classroom and laboratory instruction through appropriate preparation and integration of experiential learning techniques in Agriscience.

1. What is effective teaching?

Objective 1: Describe the role of the instructor in the learning process, including characteristics of good instructors and teaching.

2. How can I meet the needs of individual learners?

Objective 2: Identify factors affecting individual learner differences.

Objective 3: Prepare lesson plans that address diversity in student populations.

3. How can I help my students learn?

Objective 4: Correctly demonstrate the use of the teacher-centered, social interaction, and student-centered learning activities.

Objective 5: Develop and teach lessons using the appropriate learning activities.

4. How do I effectively teach adult learners?

Objective 6: Describe the characteristics and learning preferences of adult learners.

Major Teaching Methods

Interactive work, discussion, readings, written assignments, and presentations—all designed to support and encourage critical inquiry.

Special Instructional Platform/Materials

iLearn, email, MS PowerPoint, internet, ZOOM.com

Class Expectations

1. Attendance is critical to the success of this class and is reflected in the assignment portion of the grading system.
2. An important aspect of this class is sharing of ideas and learning from each other. Therefore, each class member is expected to actively participate in class and laboratory activities.
3. Cell phones must be turned off during class.

Topics to Be Covered—including, but not limited to...

1. Psychology of Learning: Implications for Teaching Agricultural Education
2. Applying Basic Principles of Teaching and Learning
3. Planning Agricultural Education Lessons
4. Planning and Implementing the Agricultural Education Program
5. Effective Teaching in the Classroom and Lab
6. Facilitation/teaching method Strategies for Effective Teaching
7. Managing Student Behavior in the Classroom and Lab
8. Securing and Maintaining Student Interest and Motivation
9. Working with Adult Learners
10. Selecting and Implementing Effective Teaching Strategies

The Agricultural Teaching Profession Texts and References:

Required:

N/A

References (if applicable): Sources of Readings

Additional readings from Agricultural and Extension Education sources will be provided by faculty.

Grading and Evaluation Procedures:

This course is point driven.

Grading Scale (if applicable)

Letter Grade	Grade Range
A	900-1000 points
B	800-899
C	700-799
D	600-699
F	599 and below

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Course Policies

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy 217 describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. Effective July 20, 2023, the university's student academic misconduct policy has been revised and is published at [Policy Central](#). Students are expected to review and read this policy as part of their orientation to the syllabus and the course expectations.

Attendance Policy

If you are unable to join us for class, please send me a short email or text letting me know.

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

Class Participation

I expect everyone to be present and active in my classes unless you have made earlier arrangements to be absent.

Assignments and Related Policy

Late assignments are deducted 10% for each day they are late.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

AI policy statement: Permitted when Assigned in this Course with Attribution.

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines can be found on the [CITL website](#).

TENNESSEE TECH UNIVERSITY

School of Agriculture

Agricultural Futures Marketing and Options

AGBE 5110

7.1

Course Number: AGBE 5110

Section:

Dates:

Time:

Classroom:

Credit Hours: 3

Semester:

Instructor:

Office:

Phone:

Email Address

Office Hours:

Course Description:

Understanding the use of futures market contracts and options to limit risk exposure to producers and agribusiness firms. The study of market price determination, forecasting basis, technical analysis and on actual trading of futures and options through market simulation programs will be addressed.

Prerequisite: AGBE 2100 & AGBE 3100 or approval of instructor

Course Objectives/ Student Learning Outcomes: At the completion of the course, the student will be able to:

1. Understand the general risks and appreciate the complexity of hedging with options and futures.
2. Use basic forward price, futures, and options models as they relate to hedging agricultural products.
3. Demonstrate the technical aspects of options valuation.
4. Understand the technical and financial aspects of basis and net effective price.
5. Understand the technical and financial aspects of options and futures prior to expiration.

Text and Required Readings: John C. Hull: Options, Futures, and Other Derivatives 10th Editions and Chris Bastian: WIRE Marketing and Risk Management (provided)

Major Teaching Methods: Class Lectures, Text and Supplemental Readings,

Instructional Platforms: Zoom, iLearn

Topics Covered:

1. Practical Introduction to Carry and Forward Prices
 - a. Cost of Carry
 - b. Full Financial Carry
 - c. Relationship to Future and Present Value
 - d. What is a Futures Contract
2. Basis and Net Effective Price
 - a. What is the “basis”
 - b. Calculating Net Effective Price
3. Introduction to Options
 - a. What is an Options Contract
 - b. Terminology of the markets
 - c. Simple Option Hedging
4. Back to the Futures
 - a. Hedge Ratios - how to calculate
 - b. Margins
 - c. Hedge Ratios - why they don’t always work
 - d. Adjusting Hedge Ratios for better performance
5. Options Before Expiration
 - a. Put-Call Parity and why it isn’t obvious
 - b. Randomness
 - c. Probabilities grow on (binomial) Trees
 - d. Calculating Options Prices
 - e. Greeks and Risk
6. Interesting Rates
 - a. Money Market Futures
 - b. Bond & Coupon Futures

Grading and Student Evaluation Procedures:

Weekly Exercises	10 pts each x 15 = 150 points total
Tests (2 one-hour exams)	150 pts each x 2 = 300 points total
Price/Profit Exercise	100 pts x 1 = 100 points total
Final Exam	200 pts x 1 = 200 points total
-----	-----
Semester	750 points

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Grading Scale:

92%-100% = A
 80%-91.9% = B
 70%-79.9% = C
 60%-69.9% = D
 <60% = F

Course Polices:**Attendance**

As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, textbook and any assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Deadlines

Assignments are due when specified as stated on the assignment sheet. Homework turned in after the due date will receive a 50% penalty until the assignment is returned. Homework that is not received after graded assignments have been returned will become a **ZERO**.

Electronic Devices

Don't use phones or other devices unless professor has directed you to do so. Keep devices silent (not on vibrate for phones) when not in use. Any use of portable electronic devices (for example, making or receiving phone calls, sending or reading text messages, or accessing the internet) will be considered a violation of academic honesty. That means no texting, no surfing the web, no gaming, etc. Doing this during class is disrespectful to me and to the students around you; during an exam it is considered cheating. If I see someone violating this policy, I will stop class and ask that person to leave. A second violation will result in automatic failure of the course. If you feel you have an emergency situation that requires your phone to be on vibrate, please clear this with the professor before class begins. I will not play games with this policy. You are now in college, not 3rd grade or middle school.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

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Students are expected to review and read this policy as part of their orientation to the syllabus and the course expectations.

Academic Support

Any student who feels that they may need an accommodation because of a disability (learning disability, attention deficit disorder, physical, etc.) please make an appointment to see us as soon as possible.

ADDITIONAL RESOURCES

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

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Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

An anticipated schedule is posted in iLearn as a printable PDF.

The instructor reserves the right to alter or modify the expected schedule and content as needed.

TENNESSEE TECH UNIVERSITY

School of Agriculture

AGBE 5130 – Agricultural Policy

AGBE 5130, 3 credit hours

7.1

Instructor Information:

Instructor's Name:
Telephone Number:
Email:
Office Hours:

Course Information:

Prerequisites (if applicable): N/A

Required Text:

Paarlbert, R.L. (2013), *Food Politics: What Everyone Needs to Know* (2nd ed.).
New York: Oxford University Press.

Course Description:

This course explores the landscape of agricultural policy and its impact on food and farming both within and outside the United States. We will examine the stakeholders involved in policy making, the implications of policy on developed and developing countries, and the nutritional environments that influence policy makers. Environmental challenges as well as issues of food insecurity, and food safety and security will be investigated.

Course Objectives/Student Learning Outcomes:

- Students will summarize the administrative role of government in agriculture.
- Students will examine the stakeholders involved in and affected by agricultural policy.
- Students will explore the relationship between nutritional environments and policy.
- Students will demonstrate an understanding of the food vs fuel debate.
- Students will analyze farming impacts on the environment and the implications of policies addressing these impacts.
- Students will evaluate concerns surrounding genetically engineered food.
- Students will assess issues of food safety and security.

Major Teaching Methods:

Readings, videos, discussions, class work, and outside research

Special Instructional Platform/Materials:

N/A

Topics to Be Covered:

- Week 1: The Administrative Role...
- Week 2: Food Security
- Week 3: Remembering the 2008 Global Food Crisis
- Week 4: International Policy Responses to Hunger
- Week 5: Green Revolution
- Week 6: Environmental Damage from Farming
- Week 7: Climate Change and its Constraints on Farming
- Week 8: Meat
- Week 9: Fish
- Week 10: Subsidies and Politics
- Week 11: Food vs Fuel
- Week 12: Genetically Engineered Foods
- Week 14: Agribusiness, Food Companies, and Supermarkets
- Week 15: Food Safety
- BONUS: Organic and Local Food

Grading and Evaluation Procedures:

Course Activity:

- It is the expectation of this course that each student completes all required readings and view all multimedia presentations for each week.
- There will be discussion posts most weeks of the course. These discussions are intended to enhance learning through interaction with classmates based on the topic for that week. Initial postings from each student must be a minimum of 300 words with a 75-word minimum for each classmate response. *Each student should respond to at least two other classmates for each module.* Remember that even discussion posts should provide sound research behind arguments and should be cited using APA style. Discussions are worth a maximum of 10 points each discussion.

Grading and Evaluation Procedures:

- Module Proficiencies are due weekly and are based on the information provided in the required resources section within each module. Typically, the word count and/or page requirement for these proficiencies is listed and responses should meet or exceed said minimums. All citations should be in APA style. Module Proficiencies are worth a maximum of 20 points each week.

Late Proficiencies:

- **Late submissions will not receive full credit.** The standard penalty for late proficiencies is a 10% per day reduction with no proficiencies accepted after the fourth day. If you fall victim to circumstances beyond your control and need additional time to submit your work, please advise the course instructor of the circumstances as soon as possible. Submitting late work prevents the instructor from providing feedback in a timely manner to better facilitate the learning process in the course.
- In extraordinary cases, the instructor reserves the right to waive all or part of the late penalty to be assessed against any given submission.

Expectations On Writing:

Students will be graded on the quality, as well as the content, of their writing. Although content is most important, grammar, spelling, and citations are also important. Students will lose points for multiple errors, typos, ineffective or confusing substandard writing, and failure to properly cite your sources using APA.

Grading Scale:

Letter Grade	Grade Range
A	90%-100%
B	80%-89%
C	70%-79%
D	60%-69%
F	59% and below

Course Polices:

Attendance

As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, textbook and any assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Deadlines

Assignments are due when specified as stated on the assignment sheet. Homework turned in after the due date will receive a 50% penalty until the assignment is returned. Homework that is not received after graded assignments have been returned will become a **ZERO**.

Electronic Devices

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cheating. If I see someone violating this policy, I will stop class and ask that person to leave. A second violation will result in automatic failure of the course. If you feel you have an emergency situation that requires your phone to be on vibrate, please clear this with the professor before class begins. I will not play games with this policy. You are now in college, not 3rd grade or middle school.

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The instructor reserves the right to alter or modify the expected schedule and content as needed.

7.1

TENNESSEE TECH UNIVERSITY

School of Agriculture

AGBE 5200 – Agribusiness Statistics

7.1

Course Section:

Course Dates:

Course Time:

Classroom:

Credit Hours:

3 Semester Hours

Semester:

Instructor:

Office:

Phone:

Email Address:

Office Hours:

Prerequisites:

None

Text and References:

TBD

Course Description:

Sampling, probability, distributions, statistical tests, analysis of variance, regression, and interpretation of data as related to Agricultural Business.

Course Objectives/ Student Learning Outcomes:

Upon completion of this course, students will:

1. Calculate the mean, median and mode of a variable
2. Calculate and use measures of variability
3. Utilize various sampling techniques
4. Determine which statistical tests are valid for different data
5. Interpret results of statistical tests and draw conclusions from them
6. Estimate Supply and Demand functions using regression and interpret results

Major Teaching Methods:

Lecture

Special Instructional Platforms/Materials:

None

Topics to be Covered:

1. Introduction to Statistical Methods for Economists
2. Summarizing Data
3. Probability
4. Sampling
5. Hypothesis Testing
6. Correlation and Regression
7. Index Numbers

Grading and Evaluation Procedures:

Three exams 75%

Homework 15%

Attendance and Participation 10%

(every absence after two will bring a 2% deduction in your final grade up to 10%)

Graduate Credit:

Students taking this course for graduate credit will be provided with a data set, description of the data, hypothesis to be tested. The assignment will be to choose an appropriate statistical design to test the hypothesis, statistically analyze the data, and interpret the results of the analyses. This project will comprise 15% of the total grade and each of the 3 hour exams will be worth 20% of the grade (total of 70% of grade).

Grading scale

90%-100% = A

80%-89% = B

70%-79% = C

61%-69% = D

<60% = F

Notice: No make-up exams will be given unless prior approval to reschedule has been given by the instructor.

Course Polices:

Attendance

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Deadlines

Assignments are due when specified as stated on the assignment sheet. Homework turned in after the due date will receive a 50% penalty until the assignment is returned. Homework that is not received after graded assignments have been returned will become a **ZERO**.

Electronic Devices

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7.1

TENNESSEE TECH UNIVERSITY

School of Agriculture

AGBE 5210 Agricultural and Biological Statistics

7.1

Course Information

Course: AGBE 4210 – 001

Days and Time: TR 8:00 – 9:20 am

Location: Room124 Oakley Hall

Credits: 3 credit hours

Semester: Fall

Instructor Information

Instructor:

Email:

Phone:

Office hours:

Prerequisites

None required

Texts and References

Elementary Statistics: A Brief Version, Allan G. Bluman, Eighth Edition. ISBN: 9781259969430

Course Description

The purpose of this course is to introduce basic statistical concepts and apply them to a variety of topics.

Course Objectives

By the end of this course the student should be able to:

1. Calculate the mean, median and mode of a variable
2. Calculate and use measures of variability
3. Utilize various sampling techniques
4. Determine which statistical tests are valid for different data
5. Interpret results of statistical tests and draw conclusions from them

Major Teaching Methods

Lectures, homework assignments, and in-class examples.

Special Instructional Platform/Materials

iLearn

Topics to Be	Nature and Probability of Statistics -- Chapter 1
	Frequency Distributions and Graphs – Chapter 2
	Data Description – Chapter 3
	Probability and Counting Rules – Chapter 4
	Discrete Probability Distributions – Chapter 5
	The Normal Distribution – Chapter 6
	Confidence Intervals and Sample Size – Chapter 7
	Hypothesis Testing – Chapter 8

7.1

Grading and Evaluation Procedures

The final grade will be based on the following: Homework (15%), Exam 1 (20%), Exam 2 (20%), Exam 3 (20%), Comprehensive Final Exam (25%).

Grading

- 90%-100%= A
- 80%-89%= B
- 70%-79%= C
- 60%-69%= D
- <60%= F

Course Polices:

Attendance

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7.1

TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGET 5520 AGRICULTURAL SPATIAL TECHNOLOGY II

DATES, TIME, CLASSROOM, NUMBER OF CREDIT HOURS, SEMESTER

Lecture hours:

Credit hours: 3

Semester:

INSTRUCTOR INFORMATION

COURSE INFORMATION

TEXTS AND REFERENCES

Required: The Precision-Farming Guide for Agriculturists, by Morgan and Ess, Deere & Company, 2017, ISBN: 0-86691-435-8. 4th Edition.

COURSE DESCRIPTION:

Principles and applications of geospatial technologies supporting precision agriculture/farming and planning for natural resource data management. Global positioning system (GPS), geographic information system (GIS), remote sensing (RS), yield monitoring and mapping, Internet information access, and computer software for management decisions.

COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

This course covers the use of information and technologies that are used for precision agriculture and its applications. Specifically, this course will:

1. Describe what precision agriculture is and why it is important.
2. Explain the basic principles and applications of the Global Positioning System (GPS).
3. Become familiar with SMS (GIS) software and be able to utilize it.
4. Use Soil EC and pH mapping as a management tool.
5. Demonstrate a competency in writing site-specific fertilizer, variable rate spray applications, etc.

MAJOR TEACHING METHODS

(e.g. lectures, labs, demonstrations, discussion, reading, or written assignments, etc.)

Lecture, demonstration, reading assignments, Project

TOPICS TO BE COVERED

1. Introduction to class, introduce precision farming.
 - a. Remote Sensing
2. Geographic Information Systems (GIS) fundamentals
 - a. Geo-referenced data processing
3. Auto-Steer
4. Yield Monitors:
 - a. Hardware: sensor calibration, grain flow, moisture meters, distance sensors
 - b. Yield data processing: mapping, data filtering
 - c. Yield data processing: statistical analysis
 - d. Yield data processing: AgLeader SMS
5. Soil EC and pH mapping
6. Variable-Rate Prescriptions using AgLeader SMS

GRADING AND EVALUATION PROCEDURES

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will have their grade reduced by 10 points for every 24 hours it is late. (I do not count Sat. / Sun.).

Three exams will be administered during the semester. Examination dates may be changed at the discretion of the instructor.

Grading system

Activity	Percentage of Grade
Labs (averaged)	10
Quizzes (averaged)	10
Two-semester exams	50
Project/Presentation	30

GRADING SCALE (IF APPLICABLE)

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

COURSE POLICIES

ASSIGNMENTS AND RELATED POLICY

Homework Assignments

Written or reading assignments will be assigned at the instructor's discretion. When possible, some of these will be available in iLearn. They will be found under the Quizzes section, although these questions will be homework and not actual quizzes. Homework questions will be available in iLearn under the Content/assignments heading. The student should enter their answers before the due date and time under the Quizzes tab.

Quizzes

Announced or unannounced (pop) quizzes may be given at any time in lecture or lab. Missed quizzes cannot be made up. One quiz grade will be dropped at the end of the semester.

Attendance Policy:

Attendance is expected at all lectures and activities. Any material missed with either an excused or unexcused absence is the responsibility of the student to obtain or make-up.

Disability Accommodation

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DISABILITY ACCOMMODATION

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TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGET 5220 AGRICULTURAL MACHINERY AND TRACTORS

7.1

Syllabus

Catalog Data: AGET 5220. Agricultural Machinery and Tractors--Spring. (E). Lec. 3. Credit 3. Principles of operation, selection and economic utilization of agricultural power units and equipment.

Coordinator: Jim Baier
 Room 138 Oakley Hall
 Phone: 372-3193
 E-mail: jbaier@tnitech.edu

Textbook: Farm Power and Machinery Management, Hunt, 11th Edition

Office Hours: 9:00 – 11:00 am TR and Friday by appointment

Class Hours: Lecture: 11:00 – 11:50 am MW, Oakley Hall Room 104

Grading:

Midterm Exam	25%	A 90-100%
Final Exam	25%	B 80-89%
Homework and Quizzes	25%	C 70-79%
Lecture	25%	D 60-69%
		F 0-59%

Tentative Lecture Topics:

Part I – Machinery Management	Farm Power and Machinery Management	Part I and II, pages 1 - 97
Part II – The Tractor	Handout	
	Farm Power and Machinery Management	Part IV, pages 219 - 270
Part III – Precision Farming	Handout	
Part IV – Machinery Operations	Farm Power and Machinery Management	Part III, pages 97 - 215

Student Lecture Topics:

Moldboard Plows	Field Cultivators	Chisel Plows & Subsoilers
Disk Harrows	Row Crop Planters	Cutter Bar & Multidisk Mowers
Mower-Conditioners & Conditioners	Hay Rakes & Tedders	Rectangular Hay Balers
Round Hay Balers	Forage Harvesters	Combines
Cotton Harvesters & Strippers	Corn Pickers	Grain Dryers
Farm Feed Processing Equipment	Grain Drills	Tobacco Equipment
Special Crop Machines	Transplanters	Rotary Cutters
Such other topics as needed or suggested		

7.1

Student Classroom Lecture:

Length of lecture – 20 minutes (± 2 minutes). Must prepare and use visual aids. May bring a machine into class or lab. Must provide a 3 to 5page (typed and double spaced) handout. Must provide at least 10 questions with answers for final exam. Student is responsible for all equipment and so forth. More information to follow.

Course Policies:

Attendance

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Deadlines

Homework assignments handed in after the due date will not be accepted and will result in a grade of 0 for that assignment.

Homework Format

Homework problems must be performed on engineering paper following the format provided in the syllabus. Homework not on engineering paper or formatted as provided in the syllabus will not be graded and returned for **ZERO** credit.

Class Computer Usage

Lectures, assignments, and grades will be available to students through i-Learn.

Exams

A physician’s note or other official documentation is required to make up an exam. Excused missed exams will be made up the Wednesday before dead week during the normal lecture time. If class is canceled on the day of a scheduled exam, the exam will be given during the following lecture period.

Students will be allowed a 5×8 index card “crib sheet” for use during the exam. All exams will be closed book exams. Exams will consist of calculations, definitions, short answers, T/F, and multiple-choice questions

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Special Accommodation

Should normal classroom activities be disrupted by a flu outbreak, the format for this course may be modified to enable completion. In that event, you will be given new instructions for continuance of the course.

Disability Accommodation

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7.1

Homework Format

1. Homework is to be performed on engineering paper.
2. Only the front side of the paper is to be written on.
3. No more than one problem per page is to be performed.
4. Separate the problem into components as it is being solved.

Example Problem

Determine the area of a right triangle with a base length of 15 ft, height of 20 ft and hypotenuse of 25 ft.

Solution Format (What you will turn in on engineering paper)

7.1

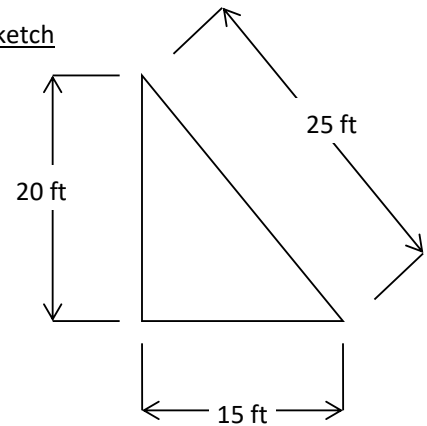
Date	Class	Name	Page (X/XX)
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Problem Number

Given:

Right triangle
 Base = 15 ft
 Height = 20 ft
 Hypotenuse = 25 ft

Sketch



Required:

Area of the triangle

Solution:

$$\begin{aligned}
 \text{Area of a triangle} &= \frac{1}{2} \text{base} \times \text{height} \\
 \text{Area of the triangle} &= \left(\frac{1}{2}\right) \times (15 \text{ ft}) \times (20 \text{ ft}) \\
 &= \underline{\underline{150 \text{ ft}^2}}
 \end{aligned}$$

Area = 150 ft²

SCHOOL OF AGRICULTURE

AGET 5510

AGRICULTURAL REMOTE SENSING

DATES, TIME, CLASSROOM, NUMBER OF CREDIT HOURS, SEMESTER

Credit hours: 3

INSTRUCTOR INFORMATION

COURSE INFORMATION

PREREQUISITES (IF APPLICABLE)

None

TEXTS AND REFERENCES

Required: Remote Sensing: Principles, Interpretation, and Applications. 4th Edition ISBN 1-4786-3710-2

COURSE DESCRIPTION

This course will teach the fundamentals of remote sensing concepts and software used in agricultural, environmental, and natural resource applications.

COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

This course provides the student with an opportunity to gain an appreciation of the field of remote sensing. The student will demonstrate how to develop a comprehension of concepts and theories used in remote sensing and integrate them into a project using state-of-the-art technology. Students will demonstrate depth in a specialty area to support their professional goals. Specific objectives of the course include:

1. Demonstrate how use Remote Sensing (RS) as it relates to GIS and GPS Technologies
2. Demonstrate the importance of spatial, spectral and temporal resolutions in RS analysis
3. Demonstrate how to use RS for documenting land resources
4. Demonstrate where to find RS Information

MAJOR TEACHING METHODS

Lecture, demonstration, reading assignments, Project

TOPICS TO BE COVERED

1. Introduction to class & Introduction to Remote Sensing
2. Concepts of Remote Sensing
3. Elements of Photographic Systems (History)
4. Basic Principles of Photogrammetry
5. Multispectral, Thermal and Hyperspectral
6. Digital Image Interpretation

GRADING AND EVALUATION PROCEDURES

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will have their grade reduced by 10 points for every 24 hours it is late. (I do not count Sat. / Sun.).

Two exams will be administered during the semester. Examination dates may be changed at the discretion of the instructor.

Graduate students will be required to complete a semester project

GRADING SYSTEM

Activity	Percentage of Grade
Labs (averaged) undergraduate	20
Labs (averaged) graduate	10
Quizzes (averaged)	10
GPS Labs	10
Two-semester exams	60
Project (Graduate)	10

GRADING SCALE (IF APPLICABLE)

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

COURSE POLICIES

ASSIGNMENTS AND RELATED POLICY

Homework Assignments

Written or reading assignments will be assigned at the instructor’s discretion. When possible, some of these will be available in iLearn. They will be found under the Quizzes section, although these questions will be homework and not actual quizzes. Homework questions will be available in iLearn under the Content/assignments heading. The student should enter their answers before the due date and time under the Quizzes tab.

Quizzes

Announced or unannounced (pop) quizzes may be given at any time in lecture or lab. Missed quizzes cannot be made up. One quiz grade will be dropped at the end of the semester.

Attendance Policy:

Attendance is expected at all lectures and activities. Any material missed with either an excused or unexcused absence is the responsibility of the student to obtain or make-up.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Student Academic Misconduct Policy

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Academic Support

Any student who feels that they may need an accommodation because of a disability (learning disability, attention deficit disorder, physical, etc.) please make an appointment to see us as soon as possible.

ADDITIONAL RESOURCES

Technical Help

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Tutoring

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HEALTH AND WELLNESS

Counseling Center

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Health Services

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Pandemic Protocols

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TENNESSEE TECH UNIVERSITY SCHOOL OF AGRICULTURE AGET 5540 ADVANCED GIS FOR AGRICULTURE AND NATURAL RESOURCES

DATES, TIME, CLASSROOM, NUMBER OF CREDIT HOURS, SEMESTER

Lecture hours

Room:

Credit hours: 3

Semester:

INSTRUCTOR INFORMATION

COURSE INFORMATION

PREREQUISITES:

AGET 3540 – FUND. OF GIS AND GPS OR INSTRUCTOR CONSENT

TEXTS AND REFERENCES

Required:

G

IS Tutorial, Basic Workbook 1 for ArcGIS 10.3, ISBN: 978-1-58948-456-6.

Designated USB drive for class assignments (Min. 2Gb).

COURSE DESCRIPTION

This course will teach advanced techniques using Geographic Information System (GIS) concepts, equipment, and software used in agricultural, environmental, and natural resource applications.

COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

The student will demonstrate how to gather information from the internet and collect GPS data and integrate them into a GIS project using state-of-the-art technology. Students will demonstrate depth in a specialty area to support their professional goals. Specific objectives of the course include:

1. The student will be able to use GIS technologies to solve practical problems.
2. The student will acquire and demonstrate the ability to collect and present GPS/GIS data and results in an informative and professional manner as it applies to agriculture and natural resources.
3. The student will identify and understand the analytical implications of spatial technologies on agricultural, environmental and natural resource issues.

MAJOR TEACHING METHODS

(e.g. lectures, labs, demonstrations, discussion, reading, or written assignments, etc.)

Lecture, demonstration, reading assignments, Computer assignments

TOPICS TO BE COVERED

Introduction to class, introduce GIS exercises

1. Introduction to Geographic Information Systems
2. Map Design
3. GIS Outputs
4. Geodatabases
5. Importing Spatial and Attribute Data
6. Digitizing
7. Geocoding
8. GeoProcessing
9. Spatial Analysis
10. ArcGIS 3D Analyst
11. ArcGIS Spatial Analysis

7.1

GRADING AND EVALUATION PROCEDURES

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will have their grade reduced by 10 points for every 24 hours it is late. (I do not count Sat. / Sun.).

Two exams will be administered during the semester. Examination dates may be changed at the discretion of the instructor.

Graduate students will be required to complete a semester project

GRADING SYSTEM

Activity	Percentage of Grade
Labs (averaged)	50 (40 Graduate)
Quizzes (averaged)	10
Mid-Term exam	20
Final Exam	20
Project (Graduate)	10

GRADING SCALE (IF APPLICABLE)

Letter Grade	Grade Range
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ASSIGNMENTS AND RELATED POLICY

Homework Assignments

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Quizzes

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Pandemic Protocols

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TENNESSEE TECH UNIVERSITY SCHOOL OF AGRICULTURE AGET 5610 GREENHOUSE STRUCTURES AND LANDSCAPING EQUIPMENT

7.1

Syllabus

Catalog Data:

A

GET 5610. Greenhouse Structures and Landscaping Equipment. Lec. 3. Credit 3. Selection, design, construction, and operation of greenhouse structures and related nursery and landscaping equipment.

Coordinator: Jim Baier
Room 138 Oakley Hall
Phone: 372-3193
E-mail: jbaier@tntech.edu

Textbook: Greenhouse Engineering

Office Hours:

Class Hours:

Objectives: The student will learn about controlling environmental parameters, common types of controlled environments, greenhouse site selection, greenhouse design and structural components, greenhouse structural materials and structural design considerations.

The student will learn about landscape equipment types and the application of specialized landscape equipment.

Course Outline:

PART 1	PART 2
Greenhouse Planning	Option 1 of a student lecture and final exam <i>or</i>
Greenhouse Structures	
Greenhouse Environment	
Heating & Cooling Eqpt	
Material Handling	Option 2 of attending The Green Industry and Equipment Exposition with a 3-page paper and no final exam.
Environmental Modification	
Energy Conservation	
Remodeling Greenhouses	

Grading:

Midterm Exam	20%	A 90-100%
Greenhouse Simulation	20%	B 80-89%
Homework & Quizzes	20%	C 70-79%
Greenhouse Design	20%	D 60-69%
Student Lecture and Final or	20%	F 0-59%
GIE EXPO & paper	20%	

Course Policies:

Attendance

Attendance is optional but 25-point attendance quizzes will be given at the discretion of the instructor.

Deadlines

Assignments and labs are due when specified as stated on the assignment sheet. Late assignments will automatically receive a 50% penalty. Homework that is not received after graded assignments have been returned will become a **ZERO**.

Homework Format

Homework problems must be performed on engineering paper following the format provided in the attachment. Homework not on engineering paper or formatted following the provided attachment will not be graded and returned for **ZERO** credit.

Class Computer Usage

All lectures, assignments, handouts and grades will be available to students through i-Learn.

Exam Format

All exams will be closed book exams. Students will be allowed a 5×8 index card “crib sheet” for use during the exam. Exams may consist of calculations, definitions, short answers, T/F, and multiple-choice questions.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

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ADDITIONAL RESOURCES

Technical Help

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Tutoring

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HEALTH AND WELLNESS

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Pandemic Protocols

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TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGET 5620 AGRICULTURAL STRUCTURES

7.1

Syllabus

Catalog Data: AGET 5620. Agricultural Structures--Spring (E). Lec. 3. Credit 3. Prerequisite: AGET 2110 or consent of instructor. Planning; drawing; materials; principles of construction with respect to arrangement, location and environmental control; plan reading.

Coordinator: Jim Baier
Room 138 Oakley Hall
Phone: 372-3193
E-mail: jbaier@tntech.edu

Textbook: Agricultural Buildings and Structures, Revised Edition, James A. Lindley and James H. Whitaker, ASABE

Supplemental Material Needed: Engineer's and Architect's Scale

Office Hours:

Class Hours:

Objectives:

The student will learn how to:

1. draw various views of an agricultural structure
2. visualize a structure
3. read, understand and construct building plans
4. assimilate construction information on paper in an orderly and understandable form
5. calculate building loads

Grading:

Homework and Quizzes	25%	A 90-100%
Midterm Exam	25%	B 80-89%
Final Exam	25%	C 70-79%
Farm Structure Special Topics	25%	D 60-69%
		F 0-59%

Tentative Lecture Topics:

TOPIC	CHAPTER
Lumber and Plywood	2
Concrete and Masonry	3
Wood Fasteners	5
Loads on Buildings	6
Foundations, Footings, & Floors	7
Building, Framing, & Bracing	8
Roof Framing	9
Structural Materials	10
Shops and Non-Product Storage	21
Swine Housing	24
Beef Housing	25
Dairy Housing	26
Horse Housing	28
Waste Management	19

7.1

Course Policies:

Attendance

Attendance is optional but 25-point attendance quizzes will be given during lecture when more than 10% of the class is absent or at the discretion of the instructor. As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, textbook and any assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Deadlines

Assignments are due when specified as stated on the assignment sheet. Homework turned in after the due date will receive a 50% penalty until the assignment is returned. Homework that is not received after graded assignments have been returned will become a **ZERO**.

Homework Format

Homework problems must be performed on engineering paper or computer printout following the format provided in the attachment. Homework not on engineering paper, computer printout or formatted following the provided attachment will not be graded and returned for **ZERO** credit.

Class Computer Usage

Lectures, assignments, and grades will be available to students through i-Learn.

Exams

Students will be allowed a 5x8 index card "crib sheet" for use during the exam. Exams will consist of calculations, definitions, short answers, T/F, and multiple-choice questions. A missed midterm exam will be made up the Friday before dead week.

Electronic Devices

Don't use phones or other devices unless professor has directed you to do so. Keep devices silent (not on vibrate for phones) when not in use. Any use of portable electronic devices (for example, making or receiving phone calls, sending or reading text messages, or accessing the internet) will be considered a violation of academic honesty. That means no texting, no surfing the web, no gaming, etc. Doing this during class is disrespectful to me and to the students around you; during an exam it is considered cheating. If I see someone violating this policy, I will stop class and ask that person to leave. A second violation will result in automatic failure of the course. If you feel you have an emergency situation that requires your phone to be on vibrate, please clear this with the professor before class begins. I will not play games with this policy. You are now in college, not 3rd grade or middle school.

Disability Accommodation

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7.1

TENNESSEE TECH UNIVERSITY SCHOOL OF AGRICULTURE AGET 5720 AGRICULTURAL PROCESSING

7.1

Syllabus

Catalog Data:

AGET 5720 Agricultural Processing. Lec. 3. Credit 3.

Managing value-added agricultural products through the application of engineering principles to fluid flow, electrical controls, refrigeration, heat transfer, drying, and hydraulic systems.

Text:

Principles of Process Engineering, 4th Edition, S.M. Henderson, R.L.Perry, J.H. Young. J. ASAE Publishers.

Coordinator:

Jim Baier,
Room 138 Oakley Hall
Phone: 372-3193
Electronic mail: jbaier@tntech.edu

Office Hours:

By appointment

Lecture:

8:00 – 9:15 AM, TR in Oakley Hall 104

Objectives:

The student will be able to:

1. Identify, formulate and solve thermal process operation problems in agricultural engineering.
2. Identify, formulate and solve problems related to the handling and storage of agricultural materials.

Grading:

Evaluation Subject	Percentage	Scale
1 st Learning Experience	25%	A⇒ 90-100%
2 nd Learning Experience	25%	B⇒ 80-89%
Final Exam	25%	C⇒ 70-79%
Homework and Quizzes	25%	D⇒ 60-69%
		F⇒ 0-59%

Lecture Topics:

Fluid Mechanics

- Estimation of Friction Losses

- Application of Bernoulli Equation

- Flow Measurement

Pumps and Pump Performance Curves

Fans and Fan Performance Curves

Conduction, Convection and Radiation Heat Transfer

Heat Exchangers

Psychrometrics

Drying and Dehydration

Refrigeration

Electronic Controls

Course Policies

Attendance

Attendance is optional but 25-point attendance quizzes will be given during lectures when more than 10 percent of the class is absent. As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, textbook and any assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

Deadlines

Homework assignments will not be accepted after the class begins on the due date and will result in a grade of 0 for that assignment.

Homework Format

Homework problems must be performed on engineering paper following the format provided in the attachment. Homework not on engineering paper or formatted following the provided attachment will not be graded and returned for **ZERO** credit.

Class Computer Usage

Lectures, assignments, and grades will be available to students through i-Learn.

Exams

Students will be allowed a 5×8 index card “crib sheet” for use during the exam. Exams will consist of calculations, definitions, short answers, T/F, and multiple-choice questions. Exam scores will be evaluated based on a 50% from a take home portion and 50% from an in-class exam. Excused missed exams will be made up the Tuesday before dead week during the normal lecture time.

Electronic Devices

Don't use phones or other devices unless professor has directed you to do so. Keep devices silent (not on vibrate for phones) when not in use. Any use of portable electronic devices (for example, making or receiving phone calls, sending or reading text messages, or accessing the internet) will be considered a violation of academic honesty. That means no texting, no surfing the web, no gaming, etc. Doing this during class is disrespectful to me and to the students around you; during an exam it is considered cheating. If I see someone violating this policy, I will stop class and ask that person to leave. A second violation will result in automatic failure of the course. If you feel you have an emergency situation that requires your phone to be on vibrate, please clear this with the professor before class begins. I will not play games with this policy. You are now in college, not 3rd grade or middle school.

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TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGRN 5100 WEED SCIENCE

Time:

Location

Credits: 3 credits

Semester: Fall

INSTRUCTOR INFORMATION

Instructor's Name:

Office:

Telephone Number:

Email:

Office Hours

COURSE INFORMATION

PREREQUISITES (IF APPLICABLE) AGRN 1100 AND AGRN 1110 OR CONSENT OF INSTRUCTOR

TEXTS AND REFERENCES

Required: *Weeds of the South*. Charles T. Bryson and Michael S. DeFelice. Pub. Univ. of Georgia Press, ISBN 9780820330464.

Recommended: *Fundamentals of Weed Science 5th Edition*. Robert L Zimdahl. Pub. Academic Press, ISBN 9780128111437.

References (if applicable): None

COURSE DESCRIPTION

Plant and seed identification, and growth habits and dissemination of weeds. Biological, cultural, and chemical methods of control in the integrated pest management (IPM) concept.

COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

1. Students learn to recognize or identify major weed species common to Tennessee and the region.
2. Students develop an understanding of the characteristics of plant species that cause them to be considered weeds and recognize how weeds are damaging to agriculture and humans.
3. Students will understand the concepts of cultural, mechanical, biological and chemical methods of weed control in integrated crop management systems.
4. Students will become familiar with some of the major types of herbicides including their uses.
5. Students will be familiar with herbicide labeling, application methods, calculation of application rates, and sprayer calibration.
6. Students will become familiar with pesticide applicator certification in Tennessee.

MAJOR TEACHING METHODS

Lectures, discussion, reading, and projects

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

iLearn

TOPICS TO BE COVERED

- Importance of Weeds
- Ecology of Weeds
- The Plant System
- The Soil System
- Weed Control
- Plant Soil Herbicide Interactions
- Herbicide Resistance in Plants
- Herbicide Groups
- Weed Life Cycles & Management

GRADING AND EVALUATION PROCEDURES

2 Exams and Final each 100 points	75% (25% each)
Weed Collections	5%
Weed ID exam	10%
Total	100 %

GRADING SCALE (IF APPLICABLE)

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

COURSE POLICIES

EXAMINATIONS

Three lecture exams and a final will be administered during the semester. The final will be comprehensive. I will try to adhere to established exam dates however; extenuating circumstances may require a change of date and is at the instructor’s discretion.

Make-up exams will be available for those arranged in advance and that are missed for valid reasons (instructor’s discretion). Any exams that are missed without prior arrangements may be taken on the day of the final exam.

Attendance

As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, textbook and any assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Electronic Devices

Don't use phones or other devices unless professor has directed you to do so. Keep devices silent (not on vibrate for phones) when not in use. Any use of portable electronic devices (for example, making or receiving phone calls, sending or reading text messages, or accessing the internet) will be considered a violation of academic honesty. That means no texting, no surfing the web, no gaming, etc. Doing this during class is disrespectful to me and to the students around you; during an exam it is considered cheating. If I see someone violating this policy, I will stop class and ask that person to leave. A second violation will result in automatic failure of the course. If you feel you have an emergency situation that requires your phone to be on vibrate, please clear this with the professor before class begins. I will not play games with this policy. You are now in college, not 3rd grade or middle school.

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech University is critical to the reputation of Tennessee Tech University, its students, alumni, and the employers of Tennessee Tech University graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech University. For details, view the Tennessee Tech University's Policy 217 – Student Academic Misconduct at Policy Central.

Additional Resources

Technical Help

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Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

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Health Services

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Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

7.1

Tennessee Tech University

School of Agriculture

AGRN 5110 – Forage Crops Production and Management

7.1

Instructor Information:

Instructor:

Office:

Office hours:

Email

COURSE INFORMATION**Prerequisites:**

AGRN 1100 – Plant Science

AGRN 1110 – Plant Science Lab

AGRN 3000 - Soils

Text (required):

Required: Southern Forages; Fifth Edition, 2015. Ball, D. M., C. S. Hoveland, and G. D. Lacefield, Potash and Phosphate Institute and the Foundation for Agronomic Research; Norcross, Georgia.

Notes and reading materials will be provided via iLearn, links provided via email messages or in class, and occasionally class handouts.

References: You are in college and expected to be a professional in your field. This includes reading books and watching videos to remain current.

The Art and Science of Grazing. 2016. S. Flack. Chelsea Green Publishing. (\$35)

Managing Pasture. 2019. D. Strickler. Storey Publishing (\$25)

Course Description:

Botany and classification, soil and climatic requirements, species adaptation, establishment and management of grasses and legumes for silage, hay, and temporary, permanent, and rotational pastures for ruminants, swine, and horses.

Forage crop species, morphology, physiology, adaptation, and identification. Soil, climatic, and topographical environmental affecting forage production. Primary forages used for animal production and erosion control in the Southeast. Emphasis on establishment and management of grasses and legumes for silage, hay, and temporary, permanent, and rotational pastures for ruminants and horses. Extensive discussion of forage quality and animal production interactions at the soil-plant-animal interface. Forage related diseases in livestock.

Course Objectives:

1. Develop an understanding and appreciation of the current and historical importance of forage crops in agricultural systems.
2. Develop familiarity with morphological, physiological, productivity, nutritive quality, unique growth, and other unique beneficial characteristics of forage species commonly grown in this region.
3. Develop an understanding of the morphological and physiological characteristics of forage species and recognition of how these characteristics affect adaptation and management of forages.
4. Create awareness role forages play in protecting and preserving our environment.
5. Develop understanding of forage nutritive value and major factors that affect nutritive quality of fresh and preserved forages.
6. Interpret and utilize forage quality data to make management decisions regarding livestock production.
7. Understand factors and management practices that affect yield and nutritive quality of preserved forages (Hay and Silage).
8. Know effects of different types of grazing systems on forage and animal production
9. Understand basic principles, advantages, and disadvantages of various rotational systems.
10. Develop competency in calculations necessary to make fertilizer application and rotational grazing management decisions.
11. Develop basic understanding of interactions that occur at the plant-animal-human interface through management of forage-animal systems

Major Teaching Methods:

PowerPoint lectures, reading assignments, and quizzes.

Platform/Materials:

Content will be on iLearn. There will be videos to watch on Media.

Topics:

- **Material to be covered on Test 1**
 - Introduction, history, and use of forages
 - Classification, morphology, physiology, growth, and adaptation of forages
 - Forage Cultivars:
 - Cool Season Grasses
 - Warm Season Grasses
 - Cool Season Legumes
 - Warm Season Legumes
 - Other Forage Crops
- **Material to be covered on Test 2**
 - Forage Crop Establishment
 - Soil adaptation
 - Soil Testing and Forage Fertilization

- Sod Seeding/No-Tillage Planting
 - IPM & Weed Management in Forages
 - Management of forages for optimum yield
 - Forage Quality
 - Forage quality components
 - Nutrient Requirements of Livestock
 - Forage-Livestock Disorders
 - Fescue Toxicity & Poisonous Plants
- **Material to be covered on Test 3**
 - Forage preservation
 - Forage programs for different livestock systems
 - Grazing Management Systems
 - Developing a Forage Program

Labs:

- Soil Test
- Hay Testing
- Setting up a grazing system
- Calculations of fertilizer
- Calculations of AU
- Plant identification
- Profit per acre
- NRCS tools
- Grazing year-round
- Grazing Plan
- Calculations of hay costs

GRADING

Topics and schedule:

Grading and Evaluation Procedures		
Method	Percentage	Comments
Exam	5	Questions from the prerequisite classes
Exams	60	3
Final	20	1 comprehensive
Labs, Quizzes, Homework	10	
Attendance		
Participation		
Extra Credit		
IDEA Evaluations	5	Only if >85% of class completes the IDEA.
Total	100	

Grading Scale:	
A	90-100
B	80-89
C	70-79
D	60-69
F	<60

COURSE POLICY:

Cell phones:

When you come to class, please turn off your cell phone or put it on vibrate. If you absolutely must take a call, please leave the room and go out to where everyone does not hear your conversation. **NO TEXT MESSAGING DURING CLASS; it is unprofessional.**

If there are repeated violations, you may be asked to leave the class.

Clothing:

Students should wear closed-toed shoes or boots. Sandals and crocks are not acceptable if we are going outside. Students should be prepared to go outside at each lab unless given other instructions.

Computers:

If you have your computer on during class, it should be used to take notes or follow Powerpoints in iLEARN. Please be aware your typing may be annoying to others around you. Other sites should not be accessed during class- if you are looking at You Tube, Facebook, etc. - do not bring it to this class.

Retests:

All exams will be on iLEARN. If you miss the window to take the exam, email me to schedule another time. If you miss the exam, you will be asked for documentation to verify the reason for missing the exam.

UNIVERSITY POLICY

Class Attendance by Students:

A student is expected to attend each meeting of every class for which he/she is registered. Each instructor is responsible for explaining, in writing, the practice in treatment of absences at the beginning of each course. Regular class attendance is a definite part of the total performance required for the satisfactory completion of any course, and an unsatisfactory attendance record may adversely affect the final grade recorded for the course.

When, in the opinion of the instructor, the attendance record of a student becomes unsatisfactory, the Office of Student Affairs will be notified. Unsatisfactory class attendance may result in the student being dropped from a course with a grade of F.

A student who cannot avoid an absence from a class is expected to assume the responsibility of explaining the absence to the instructor and for making arrangements to complete the work missed. Tardiness is recorded as an absence.

A student who is unable to return to classes due to an emergency or serious accident should notify the Office of Student Affairs.

Students may consider a class dismissed and leave the room without penalty if the instructor fails to appear within fifteen minutes. At the beginning of each period, a ten-minute interval is allowed for changing classes.

[Source: 2000 Undergraduate Catalog, page 52]

University Plagiarism Policy

(Tennessee Tech University Student Handbook – Plagiarism (Academic Regulations)):

When you use (for example, quote or even summarize or paraphrase) someone else’s media, words, data, ideas, or other works, you must cite your source. You should be especially careful to avoid plagiarizing Internet sources (for example, e-mail, chat rooms, Web sites, or discussion groups). It does not matter whether you borrow material from print sources, from the Internet, from on-line data bases, or from interviews. Failure to cite your source is plagiarism. Students who plagiarize may receive an “F” or a “0” for the assignment, or an “F” for the course. [Student Handbook - academic regulations](#)

For appeals procedures, refer to the Student Handbook.

Disability Accommodation:

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. (Disability Accommodation Policy and Procedures - Tennessee Tech University Faculty Handbook and Student Handbook [Student Handbook - disabilities](#))

For details, view the Tennessee Tech’s Policy 340 – [Services for Students with Disabilities at Policy Central](#).

COVID – 19

- Students must take personal responsibility in following the recommended CDC COVID-19 guidelines. Students are expected follow all COVID-19 directives published by Tennessee Tech including, but not limited to, notices on Tennessee Tech’s webpage, building and facilities signage, and similar publications. The university’s Return to Campus Student Handbook can be found at <https://www.tntech.edu/return/index.php>.
- According to Tennessee Tech University’s protocols, face coverings must be worn (covering the mouth and nose) by students in the classroom at all times.
- Students must abide by predetermined social distancing guidelines and seating arrangements. Movement during class sessions should be limited as to not endanger other students or faculty. Students should be conscious and respectful of others and their health concerns.

- Students who refuse to comply with university protocols on these matters **will be reported to the Tennessee Tech Dean of Students.**
- **Students should direct all requests for excused class absences related to COVID-19, regardless of where the COVID-19 testing is performed, to Tennessee Tech’s Health Services.** The Office of Student Affairs will provide notifications to faculty members of student absences and the expected length of the absence.

Tennessee Tech University Website: <https://www.tntech.edu/covid19/index.php>.

General Questions: Call or email if you don't find an answer to any question.

COVID19response@tntech.edu, (931) 372-3311

Department Contacts:

- Health Services - 931-372-3320
- Counseling Services - 931-372-3320
- Dean of Students - 931-372-6758
- Residential Life - 931-372-3414
- Human Resources - 931-372-3034
- myTECH Helpdesk - 931-372-3975
- Fitness Center - 931-372-6212

TN Dept. of Health:

- (833) 556-2476
- (877) 857-2945

Know the symptoms of COVID-19:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea
- Symptoms can range from mild to severe illness, and appear 2-14 days after you are exposed to the virus that causes COVID-19.
- This list is not all possible symptoms. Please call your medical provider for any other symptoms that are severe or concerning to you.

- It is imperative that the social distance, masking, and other guidelines be followed this semester due to the increase risk of infections from Covid 19 Coronavirus.
- Classrooms will be arranged such as to maintain social distancing.
- All classroom occupants will be required to wear masks while they are in the respective rooms.
- Classroom entrance and exit will be monitored.
- If you feel sick, do not come to class.
- Contact health services and your instructors will be notified of why you are not in class
- University guidelines for decreasing risk of contacting Covid 19 can be found at <https://www.tntech.edu/covid19/index.php> . The primary points of this page are:
- Wash your hands often and especially after coughing or sneezing.
- Wash with soap and water for 20 seconds or use hand sanitizer with at least 60% alcohol.
- Hand sanitizer is available at entrances and various other places in the building.
- Avoid touching your face, eyes, nose and mouth.
- Cover coughs and sneezes.
- Use a tissue OR into your elbow.
- Maintain social distancing.
- Stay 6 feet apart.
- Follow signs for social distancing on and off campus.
- Wear a face covering while in public to protect yourself and those around you.
- Continue to use social distancing even while wearing a face covering.
- Face coverings will be required in all:
 - Classrooms
 - Labs
 - Indoor public spaces
 - Shared office space
 - Elevators
 - Stairwells
 - On-campus events and gatherings where distancing is difficult
 - Places and times where physical distancing is not possible
 - Face coverings are encouraged, but not required in:
 - Resident hall rooms
 - Enclosed single-person offices
 - Enclosed single-person study spaces
 - Outdoor settings where distancing can be managed

○

Pandemic plan:

Should normal classroom activities be disrupted by a flu outbreak or other catastrophic event, the format of this course may be modified to enable completion. In that event, you will be given new instructions for continuation of the course.

TN HOPE SCHOLARSHIP Recipients:

It is the responsibility of the student to earn the Grade Point Average required to keep the Hope Scholarship. If you do not understand the assignments in this course and/or how the grades for the assignments and/or the course are determined, it is your responsibility to ask the Instructor.

Please clarify with the instructor any concerns you may have during the first week of classes. If you do not think you can be successful in this course, you should **officially** drop the course prior to the drop date so that the course is not calculated as a part of your attempted semester load of credits.

7.1

TENNESSEE TECH UNIVERSITY

SCHOOL OF AGRICULTURE

AGRN 5220 ENVIRONMENTAL SOIL CHEMISTRY

3 CREDIT HOURS

7.1

INSTRUCTOR INFORMATION

Instructor's Name:

Office:

Telephone Number:

Email:

OFFICE HOURS

COMMUNICATION PROTOCOL

New information and announcements will be delivered through iLearn **and** email. Email and text are the best methods of contacting me.

COURSE INFORMATION

PREREQUISITES: AGRN 2000 OR AGRN 3000; CONSENT OF INSTRUCTOR

TEXTS AND REFERENCES

Reference: **Soil Chemistry**. 4th Edition. Daniel G. Strawn, Hinrich L. Bohn, and George A. O'Connor. ISBN: 9781118628253

COURSE DESCRIPTION

This course will provide an overview of the chemical processes that occur in soil and how they impact soil fertility and the environmental quality. Topics will include the chemistry of soil minerals and organic matter, the role of microbes in soil processes, soil pH and nutrient availability, and the fate and transport of contaminants in soil. The course will also cover current issues in environmental pollution, including the impacts of pesticides and heavy metals on soil health and the remediation of contaminated sites.

COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES

This course is designed to increase my general knowledge regarding fundamental concepts concerning the interactions between the soil solid phase and the soil solution. These concepts will lead to practical application and problem solving in agricultural and environmental consulting, research, development, and education.

- Understand the chemical and physical properties of soil and how they affect soil fertility and the environment
- Become familiar with the role of microbes in soil processes and the impact of soil pH on nutrient availability

- Calculate pH and lime requirement
- Discuss soil-plant interactions as they relate to nutrient availability and plant uptake
- Explore current issues in environmental pollution, including the impacts of pesticides and heavy metals on soil health
- Learn about the principles of soil contamination and remediation, and the technologies used to clean up contaminated sites

MAJOR TEACHING METHODS

In-class lecture, iLearn assignments, and take-home exams. Assignments and exam dates are subject to change based on course delivery.

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

iLearn, Pulse, laptop

GRADING AND EVALUATION PROCEDURES

Grading will be based on quizzes, calculations, and take-home examinations from lecture.

- Quizzes and calculations are due on Sundays at 9 pm on the dates shown in the calendar provided at the end of the syllabus. Exams are due on the dates shown in the table below and at the end of the syllabus. **Any quiz, calculation, or exam submitted after 9:01 pm is considered late and will be counted as a zero.**
- Exams will be administered as independent, take-home assessments. Exams will be distributed to students one week before the due date

iLearn Modules (150 points each)		Grading Scale (450 pts total)	
		Letter Grade	Grade Range
Quizzes (1 @ 25 pts)	25	A	≥ 405
Calculations (1 @ 25 pts)	25	B	360 - 404
Exam (1 @ 100 pts)	100	C	315 - 359
		D	270 - 314
		F	≤ 269

Module	Topic Covered	Exam
1	Intro, Mineralogy, Colloidal Chemistry pH,	FEB 9
2	Liming, Nutrient Cycling	MAR 9
3	Fate and Transport & Remediation techniques	MAY 2

IMPORTANT DATES

- JAN 16 - Martin Luther King Day – **NO CLASS**
- JAN 25 - Last day add/drop a class (w/o a grade)
- MAR 13-17 - Spring Break – **NO CLASS**
- MAR 24 - Last day to drop with a "W" grade
- APR 5-7 - No class and Good Friday – **NO CLASS**
- APR 28 - Last day of class
- MAY 2 - **Final exam - 12:30p**

COURSE POLICIES

STUDENT ACADEMIC MISCONDUCT POLICY

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ATTENDANCE POLICY

NONE Lecture material will be recorded and uploaded to Teams. Attendance is strongly encouraged, but attendance will not be taken.

ASSIGNMENTS POLICY

NO LATE QUIZZES, CALCULATIONS, or EXAMS!! In the case of an official university-excused absence, documentation will be required, and the late penalty may be waived. University excused absences include illness of the student or a dependent family member, death of an immediate family member, required participation in legal proceedings, required military duties, participation in an authorized university activity, religious holidays, and mandatory interviews that cannot be rescheduled.

DISABILITY ACCOMMODATION

Students with a disability requiring accommodations should contact the Accessible Education Center (AEC). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, Room 112; phone 931-372-6119. For details, view the Tennessee Tech's Policy 340 – [Services for Students with Disabilities at Policy Central](#).

ADDITIONAL RESOURCES

TECHNICAL HELP

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7.1

Tennessee Tech University

School of Agriculture

AGRN 5210 Soil Fertility and Fertilizers

3 Credit Hours, Fall

Instructor Information

Instructor's Name: Michael Natrass

Office: Oakley Hall 131

Telephone Number: 662-312-1769

Campus Email: mnatrass@tnitech.edu

Office Hours: Monday 11 am -1 pm

Course Information

Prerequisites: AGRN 2000/3000 or consent of the instructor

Texts and References

Suggested: Soil Fertility and Fertilizers: An Introduction to Nutrient Management ISBN: 978-93-325-7034

Course Welcome and Description

This course emphasizes the relationship between soil fertility, fertilizer sources, nutrient cycles, and plant growth with respect to the environment. The course is intended to familiarize students with the importance of organic and inorganic fertilizer sources as they relate to crop production for feed and/or food. Students will be introduced to and experience cutting-edge technologies, such as the Internet of Things/Smart Farm technologies and Extended Reality (AR/VR/XR).

Course Objectives/Student Learning Outcomes

This course is designed to increase my general knowledge regarding fundamental nutrient management concepts vital to develop and implement soil, crop, and nutrient management technologies to improve plant productivity and promote environmental stewardship. I will become familiar with nutrient cycling and apply that knowledge to identify nutrient deficiency in crops. By the end of this course, I will:

- Understand the soil-plant relationship regarding nutrient uptake and mineral absorption
- Calculate an open-formula for developing a fertilizer blend based on soil test recommendations
- Describe the primary transformations that occur in the N, P, S, and K cycles and discuss their potential environmental impact
- Identify plant nutrient deficiencies in major agronomic crops such as corn, cotton, soybean
- Develop a nutrient management plan that support 4R nutrient stewardship
- Evaluate current technologies available to improve nutrient use efficiency and promote environmental sustainability

Major Teaching Methods

Face-to-face lecture, assignments, quizzes, discussions, and exams. Daily lecture topics and exam dates are subject to change should unforeseen circumstances alter course delivery.

Special Instructional Platform/Materials

iLearn, Pulse, Teams, laptop. In this course, students will be introduced to cutting edge technology through Oculus headsets.

Topics to be Covered

Module	Topics Covered	Exam
1	Soil-Plant Relationships	SEP 19
2	Nutrient Management	OCT 24
3	Technology for Sustainability	DEC 5

Course Schedule

All quizzes, assignments, and discussions are due by 9 pm on the due date provided below.

LATE SUBMISSIONS WILL NOT BE ACCEPTED.

Fertilizer ID and Nutrient Deficiency ID will be conducted in class.

Due Date	Item Due	Points
AUG 27	Quiz 1	25
SEP 10	Quiz 2	25
SEP 12	Assignment 1 – Calculations	25
SEP 14	Fertilizer ID	60
SEP 19	Module 1 Exam	100
OCT 1	Quiz 3	25
OCT 15	Quiz 4	25
OCT 17	Assignment 2 – Nutrient management plan	25
OCT 19	Nutrient Deficiency ID	50
OCT 24	Module 2 Exam	100
OCT 27	Internet of Things (IoT) Discussion	25
NOV 3	Augmented Reality (AR) Discussion	25
NOV 17	Virtual Reality (VR) Discussion	25
NOV 30	Technology Presentation	50
DEC 5	Module 3 Exam	100
Total Points		685

Course Breakdown

Fertilizer ID - (60 points)

Students will have access to various fertilizer materials to determine different characteristics useful for identifying fertilizer. For assessment, students will be given three petri dishes each containing five fertilizers. Students must correctly identify the fertilizer materials in each of the petri dishes. Each correctly identified fertilizer is worth 4 pts each.

Nutrient Deficiency ID – (50 points)

Students will have access to major agronomic crops with a known induced deficiency. For assessment, students will have to correctly identify the nutrient deficiency for 10 plants. Each correct nutrient identified is worth 5 points.

Technology Presentation – (50 points)

Working in groups, students will research current technology utilized in agronomic crop production that promotes nutrient use efficiency and environmental stewardship. Examples include drones, precision ag, mechanical, or biological technology. Students will give a 15-minute presentation formatted similar to a scientific conference presentation. Students will receive instruction and guidance throughout the course. The goal of this presentation is to develop oral communication skills useful for educating the public.

Grading and Evaluation Procedures

Grading will be based on quizzes, assignments, discussion posts, and examinations from lectures. Quizzes and assignments are designed to reinforce topics discussed during lectures and labs.

Grading Scale

Letter Grade	Grade Range
A	≥615
B	548 - 614
C	479 - 547
D	411 - 478
F	<410

Course Policies

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Attendance Policy

NONE

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Students are expected to participate in lecture discussions and lab activities.

Assignments and Related Policy

NO LATE ASSIGNMENTS/QUIZZES/DISCUSSION. In the case of an official university-excused absence, documentation will be required, and the late penalty may be waived. University excused absences include illness of the student or a dependent family member, death of an immediate family member, required participation in legal proceedings, required military duties, participation in an authorized university activity, religious holidays, and mandatory interviews that cannot be rescheduled.

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Tennessee Tech University

School of Agriculture

AGRN 5230 Soil Classification

Dates, Time, Classroom, Number of Credit Hours, Semester

Lecture and Laboratory:

Classroom:

3 credit hours

Spring

Instructor Information

Instructor

Office:

Phone:

e-mail:

Office Hours

Course Information

Prerequisites:

AGRN 3000 or AGRN 2300 and AGRN 2310 for previous years

Texts and References

Suggested:

Soil Genesis and Classification, 6th edition

by Stanley W. Buol, Randal J. Southard, Robert C. Graham, Paul A McDaniel
ISBN 13: 978-0813807690, ISBN 10: 0813807697

Required: Southeastern Region Soil Judging Manual (will be provided)

References: Provided in iLearn

Course Description

Soil formation, morphology, and classification; soil-landscape interpretation, methods of soil survey, soil and site interpretations, hydric soils, and detailed mapping of an assigned area

Course Objectives/Student Learning Outcomes

1. Students will be able to use morphological properties to describe a soil in the field.
2. Students will classify soils to the family level of Soil Taxonomy.
3. Students will be able to explain the process of soil formation using the five soil forming factors.
4. Students will identify landforms and explain their influence on the development of soils in their current state and extrapolate changes to those soils in the future.
5. Students will determine the suitability of soils for specific land use using soil physical, chemical, and biological properties.

Major Teaching Methods

Lecture, laboratory, field experiences, written / reading assignments

Special Instructional Platform/Materials

iLearn

Topics to Be Covered

- Soil morphological properties
- Soil-Landscape relationships
- Soil processes
- Soil formation
- Soil and Site interpretations
- Soil classification to the family level
- History of soil science, emphasizing development of the soil classification system
- Field methods for describing and sampling soils

Grading and Evaluation Procedures

Students are expected to complete all assignments and submit them by the date and time they are due. Late assignments will have their grade reduced by 10 points for every 24 hours it is late. (I do not count Sat. / Sun.).

Three exams will be administered during the semester. Examination dates may be changed at the discretion of the instructor.

Exam dates: February 18 or 25

March 24 or 31

Final Monday, May 4 @ 3:30-5:30 pm

Grading system

Attendance 10%

Exams (3) 50%

Term Paper 20%

Lab/ Homework (averaged) 20%

Total 100 %

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. For details, view the Tennessee Tech’s Policy 217 – Student Academic Misconduct Policy at [Policy Central](#).

Attendance Policy

Attendance is expected at all lectures and laboratories. Any material missed with either an excused or unexcused absence is the responsibility of the student to obtain or make-up.

Some labs require that students go to Tech Farm and work outside. I will try to let you know ASAP if we will be in the field. Students are expected to dress appropriately: no open toed shoes, warm clothing if the weather is cold/cool. If these labs are missed, they cannot be made up and you will receive a zero for that lab.

Attendance will be taken and is a part of your final grade. There will be one attendance grade for lecture and lab. You will be allowed 1 dropped absence.

Class Participation

Students are expected to participate in all aspects of the lab/field assignments. A field notebook should be used to keep notes and generate a lab report at the end of the semester. Lab activities are essential to this course and cannot be made up.

Assignments and Related Policy

A. Written /Reading Assignments

Written or reading assignments will be assigned at the instructor’s discretion. When possible, some of these will be available in iLearn. They will be found under the Quizzes section, although these questions will be homework and not actual quizzes. Homework questions will be available in iLearn under the Content/assignments heading. The student should enter their answers before the due date and time under the Quizzes tab. Homework requiring hard copies will have a due date and time to be submitted – usually that day or at the next lab period.

B. Term paper

All soils described during the course are to be classified to the family level. Students will be required to write a paper in which the genesis, morphology, and classification of these soils are **thoroughly** discussed. This paper will include:

1. A discussion of the formation of the soils described based on the influence of the five soil forming factors
2. Evolution of these soils in a toposequence.
3. Classification of these soils to the family level with an explanation of that classification.
4. Selected soil interpretations will be presented and defended for each soil/landscape site.
5. All original description sheets.

The due date will be during the week of April 27. We will be more specific later in the semester.

C. Field work

Most laboratories will be held in a field setting. There will be several days on which the class will meet at the university farm or other locations. For the farm and on campus sites, students will be expected to provide their own transportation.

Equipment: Students should dress appropriately for field work. **No open - toed shoes.** Be aware that some sites may have vegetation with thorns, ticks, chiggers, and assorted other irritating inhabitants.

Students will need a soil knife, paring knife, small trowel, or a tool for shallow digging into the soil profile. Pocket knives do not work in this type of material and present the opportunity for serious cuts. Therefore, **do not use a pocket knife.**

A field notebook is required. Notes of information taken in the field concerning site characteristics, location, date, should be kept in the field notebook. It will be turned in for a grade at the end of the semester.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central.](#)

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance. If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance. For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page.](#)

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

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The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

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Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

7.1

Tennessee Tech University

School of Agriculture

EVSA 7010 Crop Environmental Interactions

7.1

TBD, TBD, TBD, 3 credit hours, Summer

Instructor Information

Instructor's Name:

Office

Telephone Number:

Email:

Office Hours

by appointment

Course Information

Prerequisites (if applicable)

Texts and References

Required: None

References (if applicable): None

Course Description

Understanding of how crops interact with the major environmental factors.

Course Objectives/Student Learning Outcomes

1. Understand the major environmental factors that affect crop growth and development
2. Understand the techniques used to study crop interactions

Major Teaching Methods

Reading, and discussion

Special Instructional Platform/Materials

iLearn

Topics to Be Covered

- How crops interact with major environmental factors including but not limited to:
 - Soil nutrients
 - Soil microbes
 - Plant competition
 - Water availability
 - Herbivores
 - Pathogens
 - Light
 - Atmosphere

Grading and Evaluation Procedures

Class Participation	25 %
<u>Journal club presentations</u>	<u>75 %</u>
Total	100 %

Grading Scale (if applicable)

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

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Attendance Policy

Attendance will be taken and is expected at all classes. Your attendance grade will reflect your percent attendance. Individuals that miss more than 5 classes during the semester will automatically be dropped a letter for their final grade. Absences excused at instructor’s discretion.

Bad Weather: I do not penalize anyone for missing class due to inclement weather. Since the university rarely shuts down, you and I both have to make a determination as to how safe traveling to and from campus will be. Please do not attempt to come to class if conditions in your situation are unsafe. Please

e-mail me ASAP when you know you will not be coming. If I am not able to come to class or if conditions deteriorate in the afternoon to dangerous levels, I will try to contact the class by e-mail ASAP.

Class Participation

Participation is expected in all class lectures, activities, and labs. Your participation will be determined subjectively by the instructor and will factor into your participation grade.

Assignments and Related Policy

All assignments will be due on a date determined by the instructor. Assignments turned in after the due date will be subject to an increasing loss of points increasing at 5% increments per day late.

Disability Accommodation

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. For details, view the Tennessee Tech's Policy 340 – Services for Students with Disabilities at [Policy Central](#).

7.1

Tennessee Tech University

School of Agriculture

EVSA 7030 One Health -Principles and Applications

7.1

Dates, Time, Classroom, Number of Credit Hours, Semester

Lecture hours: TBD

Credit hours: 3

Semester: Spring

Instructor Information

Office:

Phone:

e-mail:

Office hours:

Course Information

Prerequisites – BIOL -1020/ANS 1200 and BIOL – 3200 and instructor consent.

Texts and References

Center for Disease Control and Prevention (CDC) <https://www.cdc.gov/>

United States Department of Agriculture (USDA) <https://www.usda.gov/>

Course Description:

This course will focus on understanding and appreciation of the links among human, animal, and ecosystem health. Moreover, the importance of and commitment to working together to address health challenges will also be discussed. The need for collaboration in areas of education/teaching, research and community service both locally, nationally, and globally will be highlighted, thus providing the foundation for achieving One Health goals and objectives.

Course Objectives/Student Learning Outcomes

1. To introduce students to the principles of global One Health
2. To analyze the common health issues between humans and animals
3. To recognize the roles of human and veterinary medicine in ensuring that infectious diseases are controlled between humans and animals
4. To examine food safety as it applies to both veterinary applications and human health
5. To evaluate the environment as a mutual space for health and diseases in humans and animals
6. To study the collaboration between human and veterinary medicine
7. To apply One Health concepts in community and international health

Major Teaching Methods

lectures, case studies, discussions or reading and written assignments

Topics to Be Covered

Module 1: Introduction and History of human and veterinary medicine

Module 2: International One health concepts

Module 3: Challenges with Emerging Infectious Diseases

Module 4: Zoonotic Diseases

Module 5: Food Safety

Module 6: Environmental Health

Module 7: Interrelationships among Human, Animal and Environment

Module 8: Course Review-Discussions and Case Studies

Grading and Evaluation Procedures

Grading policy

EXAM 1: 50 POINTS

EXAM 2: 50 POINTS

EXAM 3: 50 POINTS

FINAL EXAM*: 100 POINTS

QUIZZES** 50 POINTS

CASE STUDIES (15 X 3) 45 POINTS

PARTICIPATION/DISCUSSION 40 POINTS

PRESENTATIONS (20 X 3) 60 POINTS

REVIEW PAPER (20 X 4) 80 POINTS

GROUP PROJECT 25 POINTS

TOTAL POINTS 550

Class participation and reports are required of each student to pass the course. Details will be given in class.

Letter grades: A = > 495; B = 440 – 494; C = 385 – 439; D = 330 – 384; F = < 329

A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <59%

Non-attendance without officially dropping course = F

Final Examination: *Final exam is cumulative

Quizzes** All quizzes are announced. Each quiz is worth 10 points. The maximum points one can get from quizzes is 50. In case a student took all the quizzes, the additional points will be considered as extra credit points. For example, if one student gets 60 points from 6 quizzes, 10 points will be considered as extra-credit points. There will be no make-up for missed quizzes.

Course Policies

CLASS ATTENDANCE BY STUDENTS:

A student is expected to attend each meeting of every class for which he/she is registered. Each instructor is responsible for explaining, in writing, the practice in treatment of absences at the beginning of each course.

Regular class attendance is a definite part of the total performance required for the satisfactory completion of any course, and an unsatisfactory attendance record may adversely affect the final grade recorded for the course.

When, in the opinion of the instructor, the attendance record of a student becomes unsatisfactory, the Office of Student Affairs will be notified. Unsatisfactory class attendance may result in the student being dropped from a course with a grade of F.

A student who cannot avoid an absence from a class is expected to assume the responsibility of explaining the absence to the instructor and for making arrangements to complete the work missed. Tardiness is recorded as an absence.

A student who is unable to return to classes due to an emergency or serious accident should notify the Office of Student Affairs.

Students may consider a class dismissed and leave the room without penalty if the instructor fails to appear within fifteen minutes. At the beginning of each period, a ten-minute interval is allowed for changing classes.

UNIVERSITY PLAGIARISM POLICY:

(Tennessee Tech University Student Handbook – Plagiarism (Academic Regulations)):

When you use (for example, quote or even summarize or paraphrase) someone else’s media, words, data, ideas, or other works, you must cite your source. You should be especially careful to avoid plagiarizing Internet sources (for example, e-mail, chat rooms, Web sites, or discussion groups). It does not matter whether you borrow material from print sources, from the Internet, from on-line data bases, or from interviews. Failure to cite your source is plagiarism. Students who plagiarize may receive an “F” or a “0” for the assignment, or an “F” for the course.

Student Handbook - academic regulations

For appeals procedures, refer to the Student Handbook.

DISABILITY ACCOMMODATION:

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. (Disability Accommodation Policy and Procedures - Tennessee Tech University Faculty Handbook and Student Handbook Student Handbook - disabilities)

7.1

Tennessee Tech University

School of Agriculture

EVSA 6010 Environmental Agriculture

Spring

EVSA 6010

TR

8:00 PM to 9:15 AM Oakley Hall 212

7.1

Instructor Information

Instructor's Name: Dr. Ciana Bowhay

Office: Oakley Hall 141

Telephone Number: 931-372-6124

Campus Email: cbowhay@tntech.edu

Course Welcome and Description

Welcome to EVSA 6010, Environmental Agriculture! This course will provide insight regarding environmental challenges seen in various agricultural industries and how they are approached.

Course Objectives/Student Learning Outcomes

This course is designed to allow students to better understand the current issues associated with agriculture and the environment. Students will participate in and guide discussions regarding current, peer-reviewed journal articles in the agricultural sciences.

Course Objectives

Identify and explain advanced technologies aimed at mitigating and reducing the environmental impact of agricultural practices.

Describe and analyze emerging agricultural production technologies, considering their potential benefits and challenges.

Analyze and critique the methodologies, data, and conclusions presented in scientific journal articles related to environmental agriculture.

Evaluate the strengths and limitations of technologies aimed at reducing agriculture's environmental impact.

Assess the potential societal, economic, and environmental implications of adopting emerging agricultural production technologies

Lead and facilitate discussions on complex journal articles related to environmental agriculture, fostering critical thinking and collaboration among peers

Provide constructive feedback and contribute to the intellectual development of peers through active participation in journal article discussions

Office Hours and Communication

Office hours will be by appointment. It is best to set up an appointment ahead of time by email if you need help so I can make sure that I am available.

The best way to contact me is by email, I will do my best to get back to you as soon as I can. Please use the tntech email rather than the iLearn email.

Feel free to drop by my office. I cannot guarantee I will be free to meet with you, but we can set up a later appointment in person if necessary.

Course Information

Prerequisites

Must be enrolled in one of the following degree programs: DMaroral, specialist in education or graduate

Texts and References

There is no required textbook for this course. All materials will be provided via iLearn.

Major Teaching Methods

- Traditional lectures
- Guest lecturers will visit to discuss various agricultural industries
- Students will be provided with reading assignments and lead group discussions
- Discussion boards will be utilized to voice comments, thoughts, etc. prior to meeting for the weekly discussion.
- Students are expected to participate in discussions

Special Instructional Platform/Materials

Content will be provided on iLearn.

Topics

- General Concepts
 - Sustainable agricultural systems
 - Global environmental systems
- Poultry Production
 - Overview of the poultry industry
- Beef Production
 - Overview of the beef industry
- Plant Science
 - Biotic/abiotic interactions
 - Genetically modified organisms
- Soil Science
 - Soil organic matter and carbon cycle
 - Soil properties and relation to the environment
- Agronomy
 - Crop production
- Agricultural Engineering Technology
 - Precision agriculture
 - Agricultural waste management
- Water

- Waste management
- Regulations and treatment (processing plants)
- Agricultural Economics
 - Resource economics

**Topics may be adjusted based upon availability of guest speakers.*

Participation

Students are expected to ask and answer questions during each class and participate in discussions posted on iLearn.

Journal Articles

Peer-reviewed journal articles will be provided at least one week in advance. Students are expected to read the article and be prepared to discuss it the following week. Each student will lead a discussion of at least one article during the semester, similar to a “Journal Club.”

Course Schedule

Day	Date	Topic	Due	Points
Thursday	Jan 11	Introduction and Syllabus		
Tuesday	Jan 16	Introduction to Agriculture	Initial Thoughts Discussion Post	10
Thursday	Jan 18	Introduction to Agriculture Continued		
Tuesday	Jan 23	How to read/review a research paper		
Thursday	Jan 25	Beef Industry Introduction		
Tuesday	Jan 30	Beef Production		
Thursday	Feb 1	Beef Production Journal Club	Discussion Post	10
Tuesday	Feb 6	No Class		
Thursday	Feb 8	Poultry Production Lecture, Guest Lecture Dr. Victoria Ayres		
Tuesday	Feb 13	Poultry Production Journal Club	Discussion Post	10
Thursday	Feb 15	Soil Science Introduction		
Tuesday	Feb 20	Soil Science Guest Lecture: Dr. Michael Nattrass		
Thursday	Feb 22	Soil Science Journal Club	Discussion Post	10
Tuesday	Feb 27	Plant Science Introduction		
Thursday	Feb 29	Plant Science Guest Lecture: Dr. Kenneth Pierce		
Tuesday	Mar 5	Plant Science Journal Club	Discussion Post	10
Thursday	Mar 7	Agronomy Introduction		
Tuesday	Mar 12	NO CLASS – Spring Break		

Thursday	Mar 14	NO CLASS – Spring Break		
Tuesday	Mar 19	Agronomy Guest Lecture: Dr. Michael Natrass		
Thursday	Mar 21	Agronomy Journal Club	Discussion Post	10
Tuesday	Mar 26	Agricultural Engineering Introduction		
Thursday	Mar 28	NO CLASS – Good Friday		
Tuesday	Mar 30	Agricultural Engineering Guest Lecture: Dr. Jim Baier		
Thursday	Apr 2	Agricultural Engineering Journal Club	Discussion Post	10
Tuesday	Apr 9	Introduction to Water		
Thursday	Apr 11	Water Guest Lecture: Dr. Jim Baier		
Tuesday	Apr 16	Water Journal Club	Discussion Post	10
Thursday	Apr 18	TBD		
Tuesday	Apr 23	TBD		
Thursday	Apr 25	Antibiotics	Natural Resource Economics	10
			Final Thoughts Discussion Post	10
Friday	May 1 by 5 PM		Final Paper	140

Grading and Evaluation Procedures

Category	Points
Participation	140
Journal Club Discussion Posts	100
Lead Journal Club Discussion	120
Final Paper	140
TOTAL	500

- Participation: 5 points per meeting
 - Ask questions and engage with others throughout the conversation.
- Journal Club Discussion Posts: 10 points per Journal Club
 - Students are expected to post their initial thoughts on the provided journal article and any questions they may have. Students are also expected to make at least one comment on at least one other student’s post(s). The class will discuss these comments together during the corresponding Journal Club.
- Lead Journal Article Discussion: 120 points
 - Discuss the journal
 - Discuss the author and their credentials
 - Facilitate a discussion of the article
 - What was the question/problem?

- How was it solved?
 - Were the tables appropriate?
 - Was the question/problem solved?
- Final paper: 140 points
 - Students will choose a topic previously discussed over the course of the semester and provide both sides of the problem. Finally, students will also decide where they stand on the issue.
 - Peer-reviewed journal articles are required for both sides of the argument.
 - Students may use references provided by this class. However, other references must also be used.
 - 8-10 pages in length (excluding references)
 - Double spaced, Times New Roman, size 12 font
 - No specific formatting

Grading Scale (Maximum):

Letter Grade	Points	Grade Range
A	450-500	90 – 100%
B	400-449	80 – 89%
C	350-399	70 – 79%
D	300-349	60 – 69%
F	<299	59% and below

Course Policies

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Attendance Policy

Attendance is expected in each class and necessary to obtain a high grade in this course.

Class Participation

Participation is based on your contributions to class discussions and will improve your understanding and experience in this course.

AI POLICY

In this course, Generative AI resources are **not** permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Additional Resources

Technical Help

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DR. STEVEN GENTILE
EXECUTIVE DIRECTOR



BILL LEE
GOVERNOR

STATE OF TENNESSEE
HIGHER EDUCATION COMMISSION
STUDENT ASSISTANCE CORPORATION
312 ROSA L. PARKS AVENUE, 9TH FLOOR
NASHVILLE, TENNESSEE 37243
(615) 741-3605

7.1

Memorandum

TO: Dr. Lori Bruce, Provost
Tennessee Technological University

FROM: Dr. Julie A. Roberts, Chief Academic Officer
Tennessee Higher Education Commission

SUBJECT: Tennessee Technological University
Agriscience Technology, Master of Science (MS)

DATE: November 15, 2024

Pursuant to Tennessee Higher Education Commission (THEC) Academic Policy A1.0 – New Academic Programs: Approval Process, THEC staff will support the proposed Agriscience Technology, Master of Science (MS). This proposed program has satisfied all requirements including conducting a site visit and responding satisfactorily to all recommendations and suggestions by the external reviewer, Dr. Dean Kopsell, Associate Dean for Academic and Faculty Affairs in the College of Agricultural and Environmental Sciences at the University of Georgia.

Tennessee Technological University (TTU) may now submit a formal request to place the program on the Commission's agenda for consideration of approval. Please note, the request must also include the date of the TTU's Board of Trustees approval for the proposed program.

- cc: Dr. Philip Oldham, TTU, President
Dr. Steven Gentile, THEC, Executive Director
Dr. Sharon Huo, TTU, Associate Provost
Dr. Darron Smith, TTU, Dean of the College of Agriculture and Human Ecology
Dr. James Baier, TTU, Assistant Dean of the College of Agriculture and Human Ecology
Dr. Katherine Brackett, THEC, Senior Director of Academic Affairs
Dr. Megan Roberts, THEC, Director of Academic Affairs
Ms. Maya Robinson, THEC, Academic Affairs and Workforce Alignment Project Manager



Agenda Item Summary

Date: March 6, 2025

Agenda Item: New Academic Program Proposal (NAPP) for M.S. in Child Life

Review

Action

No action required

7.2

PRESENTER(S): Provost Bruce

PURPOSE & KEY POINTS:

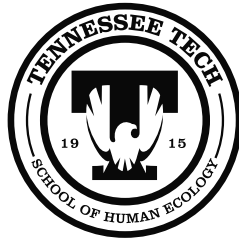
The new degree program for which approval is sought is a Master of Science (M.S.) in Child Life. Faculty in the School of Human Ecology in the College of Agriculture and Human Ecology are leading this proposal.

The purpose of the new Master’s program in Child Life is to prepare professionals to serve in child life roles in healthcare. As a practitioner’s degree, the proposed program will provide advanced content knowledge in child life clinical practice, psychosocial care of children and families, and evidence-based practice to meet the needs of credentialed Certified Child Life Specialist (CCLS) professionals seeking to enhance their employment prospects with a graduate degree. It will also serve bachelor's-prepared individuals pursuing child life academic preparation for professional certification.

The proposed graduate program will require 36 credit hours of coursework. The program will be entirely online and will make use of Tennessee Tech University’s innovative instructional technologies.

The proposed implementation date is fall 2026. It is estimated that the initial enrollment for year one will be seven students and will reach 20 students by year 5, with an increase of five new students each fall semester.

The School of Human Ecology will utilize existing and new campus resources to develop, launch, and support the Master of Science in Child Life. Year one expenditures are estimated at \$6,750, increasing to \$131,600 by year five. The increase in expenditures is due to the hiring of one new full-time Lecturer in year two. Projected revenue of \$72,060 for year one grows to \$242,110 by year five, driven by increases in enrollment, more than covering program expenses.



7.2

New Academic Program Proposal (NAPP)

Date of Submission:	July 22, 2024
Institution:	Tennessee Technological University School of Human Ecology
Academic Program Name:	Child Life
Degree Designation:	Master of Science
Proposed CIP Code, Title, & Definition:	19.0799 Human Development, Family Studies, and Related Services, Other Any instructional program in human development, family studies, and related services not listed above.
Proposed Date of Implementation:	August 2025
Academic Program Liaison:	Dr. Melinda Anderson, RDN, LDN Director, School of Human Ecology 931-372-3378 manderson@tntech.edu

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7.2

Letter of Notification (LON)

Overview

Program Information

Academic Institution:

Tennessee Technological University
School of Human Ecology

Academic Program Name:

Child Life

Degree Designation:

Master of Science

Proposed CIP Code, Title, and Definition:

19.0799 Human Development, Family Studies, and Related Services, Other
Any instructional program in human development, family studies, and related services not listed above.

Academic Program Liaison:

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Proposed Implementation Date:

Estimated Timeline:

Fall 2025
November 13, 2023 LON submitted
External review- June-July 2024
Institutional governing board approval December 5, 2024
THEC Action-January 2025
Enroll students for fall semester August 2025

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**Tennessee Technological University School of Human Ecology
Child Life Master's Degree Letter of Notification**

Section II: Background

Background Concerning Academic Program Development

The proposal for an online master's degree program in Child Life has been a goal and topic of discussion for the School of Human Ecology faculty for some time. Current circumstances at Tennessee Technological University (TN Tech) indicate this is the optimal time to initiate a Master of Science Degree in Child Life. TN Tech is focused on developing academic programs in the health and human sciences disciplines and growing the university's online academic program presence. The Master of Science in Child Life aligns with and will accomplish these goals for Tennessee Tech.

Certified Child Life Specialists (CCLS), typically employed in pediatric healthcare, provide psychosocial interventions to prevent harmful impacts from stress and promote optimal development of children and families ([Romito, et al., 2021](#)). The child life profession adds value to pediatric healthcare environments positively contributing to patient experiences ([Boles et al., 2020](#)). Child life, a growing profession, attracts students interested in working with children and families in healthcare settings. However, COVID-19 disrupted the student-to-professional pathway eliminating students' clinical experiences including child life practicums and internships for a time. Thus, currently there is a CCLS staffing crisis with child life positions going unfilled ([Heering, 2022](#)). Recent research indicated that in 2020 clinical internships were offered to graduate students significantly more than undergraduate students, which contrasted with 2015 and 2017 when undergraduates were significantly more likely to be offered internship positions over graduate students ([Sisk et al., 2023](#)). This signals that it is time to initiate a master's degree to remain competitive in the changing Child Life profession and best prepare students for the workforce.

Healthcare professions are highly competitive with much demand from students pursuing healthcare careers including child life. Education of medical team and allied health professionals have established the precedented requirement for graduate degrees for multidisciplinary healthcare team members including Licensed Clinical Social Workers, Occupational Therapists, Physical Therapists, Speech Pathologists, Dietitians, Nurse Practitioners, Physician Assistants, and Medical Doctors. Students seeking to become Certified Child Life Specialists should hold an equivalent graduate degree to fellow multidisciplinary healthcare team members to be seen as credible peers. Tennessee Tech's School of Human Ecology Child Life faculty seek to provide the most current, relevant educational opportunities for students' success.

Purpose and Nature of Academic Program

Tennessee Tech has been a leader in the state for its undergraduate Child Life program, which was the first in the state when initiated in 2011 and the inclusion of a full-time CCLS faculty member continues to be a uniqueness. The undergraduate program was also one of the first five undergraduate Child Life programs in the nation to receive Association of Child Life Professional's (ACLP) Academic Program Endorsement in 2019. Tennessee Tech's commitment

to Child Life through a master's degree in Child Life will continue this legacy of leadership, which contributes to the psychosocial well-being of children and their families in the state and beyond. For the TN Tech MS in Child Life degree, professional Child Life Certification is not required for admission. This degree program will serve two audiences: students who seek academic preparation and certification eligibility; and Bachelor's prepared professionals who hold the CCLS credential seeking a quality master's degree to advance their careers. As noted below in the discussion of the target audiences, this MS in Child Life is designed to attract a range of students who are either seeking certification as a Child Life Specialist, or already have Certification and are seeking a graduate degree. The route to Certification is contained within the Experiential Learning option.

Description. The Master of Science in Child Life degree program is designed for candidates pursuing careers applying evidence-based research knowledge to clinical child life practice for positive patient outcomes and patient experiences. This master's degree is a practitioner's degree to provide advanced content knowledge in child life clinical practice, psychosocial care of children and families, and evidence-based practice to credentialed CCLS professionals seeking a graduate degree for employment enhancement, bachelor's prepared individuals seeking child life academic preparation for child life professional certification eligibility, and undergraduate human development and family science students seeking child life academic preparation for professional child life certification eligibility. The program is grounded in developmental theory, family science, and stress and coping for in-depth understanding of children and families. The master's degree initiation for this program is reasonable, appropriate, fiscally responsible, and justifiable. The curriculum emphasizes students' mastery of theoretical frameworks and practical application of knowledge to clinical child life practice for the benefit of children and families facing challenging healthcare experiences.

Being fully online, this graduate program will utilize Tennessee Tech's leading instructional technologies while offering students best practices of academic support, faculty advising and mentoring to foster student success. Ideally, full-time students will progress through the program in cohorts with most courses taken together, yet being mindful of various student needs, opportunities will be made for students to adjust graduation timelines to facilitate school/work/life balance as they pursue a graduate degree. Learning opportunities in courses will provide students the ability to develop rapport and promote relationship building for peer connection and potential social support. Collaborative and team-based learning opportunities will be incorporated among students to simulate healthcare multidisciplinary teamwork required in the child life profession.

The degree will contain a total of 36 credit hours of graduate courses. The coursework will be based upon Child Life Certification Commission's Certification Eligibility Coursework Requirements and incorporate the Child Life Competencies (found in Appendix F). Benchmark data regarding credit hours were collected from the Association of Child Life Professionals Endorsed Graduate Child Life Academic Programs with master's degree credit hour requirements ranging from 31 to 50 credit hours. The curriculum will be purposefully sequenced

to scaffold student learning, and the online program will typically take two years to complete when enrolled full-time.

Target Audience. The target audience is both practicing Certified Child Life Specialists looking to remain competitive in their profession by further developing their clinical knowledge and skills including research application to practice, as well as other professionals and undergraduate students wanting to pursue the Certified Child Life Specialist credential by earning a graduate degree.

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There are two target audiences for the online Child Life master's degree:

- Bachelor's prepared individuals seeking child life academic preparation for Child Life Professional Certification Eligibility.
- Bachelor's prepared Certified Child Life Specialists seeking to advance their academic education to enhance their professional clinical practice.

Part of the rationale for initiating the Child Life MS Degree stems from indications in the child life market that graduate students are becoming preferred in the competitive healthcare internship, which indicates it is in students' best interests to pursue a graduate child life degree. TN Tech's School of Human Ecology offers the Human Development and Family Science concentration, which will provide undergraduate students interested in child life the ability to gain a foundational undergraduate degree. This will provide solid academic preparation for students interested in pursuing the healthcare specialization of Child Life in the Master's Degree.

In looking at the email inquiries received regarding the child life concentration, it is anticipated that this program will receive applicants possessing a variety of undergraduate degrees. Individuals with degrees in education, psychology, child/human development, and health sciences could build on their undergraduate education to specialize in Child Life as students in this master's program.

Certified Child Life Specialists desiring a graduate degree will expand their knowledge to include research and evidence-based practice and further understand theoretical frameworks of psychosocial care. In healthcare institutions, a master's degree is often required for employees seeking to move into leadership positions. By virtue of enrolling in this master's program, students are investing in their future career possibilities as leaders.

Delivery Method. The Child Life master's degree coursework will be delivered via a 100% online format to provide students in Tennessee, the region, and beyond a high-quality graduate program conveniently through online courses.

Alignment with State Master Plan and Institutional Mission

State Master Plan. The Tennessee Higher Education Master Plan 2015-2025 (2020 update) includes a framework with three components: student success, prosperity for Tennessee’s families, and the state’s workforce. The outcomes desired from this framework are positive economic and societal impacts. The narrative will include discussion of each component related to the proposed Master of Science in Child Life.

Student Success.

Academic Readiness. The admission process for this proposed program would include evidence of a relevant bachelor’s degree to provide foundational knowledge that can be expanded upon with a graduate degree and an undergraduate GPA of 3.0 minimum is required on a 4.0 scale. A personal statement essay application requirement will provide information regarding the applicant’s professional goals, motivation for pursuing a master’s degree, current skill set, and preparation for a graduate program. A graduate committee interview via an online platform will provide further information regarding the applicant’s readiness. These responses and interactions should provide the information necessary to assess a student’s readiness for the graduate program.

Access to Higher Education. Being a 100% online program provides access to the proposed master’s degree for those seeking to advance their education. This includes providing access to students living in the 15 distressed counties and access to students who live beyond the Upper Cumberland region.

Completion. There are several efforts to assist master’s degree program students reach their goal of earning a graduate degree. Completion of the degree will include intrusive advising with the CCLS faculty member directing the graduate program serving as the academic advisor to all enrolled students. This relationship will begin upon admission to develop rapport and support. Responsibilities in this academic advising role will include course schedule and planning, as well as assessment of students’ academic progress, workload management, and overall student well-being. Cohorting will be implemented to allow students to begin relationship building with each other for peer support, which helps them learn and engage with each other. Prescribed scheduling will primarily be used each semester when students are full-time, they will progress through courses as cohorts with peers. Targeted interventions of mandatory semester advisement meetings, peer discussion assignments and collaborative learning projects will facilitate students’ connections with each other. Opportunities for faculty and peer mentoring will also be provided as needed.

Family Prosperity.

Affordability. [Tennessee Tech Rankings](#). Tennessee Tech is identified by MONEY Magazine as the number one public university in Tennessee in “Best Colleges for Your Money” and ranks number three overall among private and public universities. News and World Report ranked the university as number 153 in Social Mobility and found that

graduates leave with the least debt of all public universities in Tennessee. PayScale found that TN Tech provides student with the highest return on investment for any public university in the state. TN Tech graduates have the highest early career salary of any public university in Tennessee. SmartAsset ranked TN Tech as in its top public best value universities in Tennessee. Students pursuing the proposed graduate degree will have access to financial aid.

Transparency. Upon approval of this proposed program, various data will be collected regarding student and program outcomes including enrollment and completion. Data reporting will be disseminated at various levels.

Outreach to Adults. The proposed master's degree being a 100% online graduate program provides the greatest outreach to adults within the state, region, and even nationally. Graduating with a master's degree provides access to more job opportunities and increased salaries. The [U.S. Bureau of Labor and Statistics](#) reports that the higher educational attainment equates to higher wages and lower rates of unemployment.

The Future Workforce.

Future of Work. [TN Higher Education Commission's \(THEC\) State Supply and Demand Report](#) identified Health Sciences and Human Services as In-demand Occupations and Aligned Academic Programs. The Health Science cluster indicates that "healthcare and life sciences is a TNECD target industry. Investment in our universities and world-class research facilities associated with this sector will compliment and enable the development of a capable workforce." (p. 46). The Master of Science Degree in Child Life fits well within these clusters and provides students research education to promote critical inquiry in their professions.

[THEC Workforce Investment Premium \(2020\)](#) was created to impact the outcomes-based funding formula and provides greater outcome points for high-needs fields that "creates a very real alignment between workforce demand, academic supply, and Tennessee higher education funding" (p. 51). The Master of Science in Child Life creates opportunities for Tennessee Tech to meet workforce demand by educating students to care for the psychosocial needs of children and their families in healthcare. Healthcare encounters are stressful experiences for children and adults, this is an important area for graduates with the Master of Science in Child Life to make a significant impact on positive patient outcomes and patient experiences in healthcare and fill an unmet need. The Master of Science graduate program will equip students to meet the physical, cognitive, social, and emotional well-being of children and families in stressful healthcare experiences.

CTE and Work-Based Learning. While the proposed Masters Degree in Child Life coursework is 100% online, students will have an optional Experiential Learning track they may complete during the summers if they choose, which will provide students the ability to determine appropriate field experiences to inform their learning as either a

pre-internship experience or practicum summer year one and a child life clinical internship if received after applying to available child life clinical programs via the competitive external process.

Academic Program Approval. This LON is the initial phase of the process for reviewing and approving new academic programs in the state of Tennessee. This program coincides with the State Master Plan's goal to encourage alignment among academic programs and industries for complimentary collaborations to benefit Tennessee's economy. This master's program is focused on providing the academic coursework and degree requirements for students to become Child Life Certification Eligible.

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Tennessee Tech's Institutional Mission.

[Tennessee Tech University's Mission](#) is to create, advance, and apply knowledge to expand opportunity and economic competitiveness while delivering enduring education, impactful research, and collaborative service. The proposed Master of Science Degree in Child Life aligns with the university's mission to create knowledge for students in the graduate program and help them apply this knowledge to improving the quality of life for individuals, families, and communities. Earning a graduate degree expands the students' opportunities to be successful in the competitive healthcare industry of Child Life and allows graduates improved economic competitiveness. The Master of Science Degree in Child Life will provide students an education that will endure throughout their career, provide them with research knowledge to rely on evidence-based practice consistent within healthcare roles, and provide collaborative opportunities focused on children and families in healthcare.

[Tennessee Tech University's Vision](#) is to achieve national prominence and impact through engaged students, dedicated faculty, and career-ready graduates known for their creativity, tenacity, and analytical approach to problem solving. The Master of Science Degree in Child Life aligns with the university's vision to achieve national prominence. The proposed program will be the first of its kind within Tennessee's state universities since the only other master's in child life is offered on campus at Vanderbilt University, a private university with [tuition in 2023 at \\$2169.00 per credit hour](#) totaling \$19,521 per 9 credit hour semester. [Tennessee Tech's graduate tuition](#) for a 9 credit hour semester totals \$5688 for TN residents, which translates to a total of \$22,752 for a 36-hour master's degree. In addition to being financially accessible, the proposed master's degree will provide access to students across the state, region, and beyond being 100% online.

The Master of Science in Child Life supports the university's mission of providing dedicated faculty to engage students in their graduate studies. The School of Human Ecology faculty who will be teaching courses in the graduate program have dedicated themselves to pursuing terminal degrees in their respective disciplines holding Doctor of Philosophy degrees focused on research. These dedicated faculty have taught full-time in the School of Human Ecology for

more than 10 years demonstrating a high level of competence in their respective disciplines (Child Life, Dr. Sisk & Trauma Informed Care, Dr. Ramsey).

Engaging students is common practice among the School of Human Ecology faculty who will teach courses in the proposed Master of Science Degree in Child Life. The faculty implement various pedagogically sound teaching methods in both on campus and online learning environments. Student engagement is an important key to student success, which impacts student retention. The School of Human Ecology has an undergraduate student retention rate of 81.8% (2022 data) and the new MS Degree in Community Health and Nutrition's student retention rate is 95% with graduation rate of 100% for the first cohort (May 2023). Expectations for student engagement, retention, and graduation are high for current programs in the School of Human Ecology and will be evident in the proposed master's degree as well.

The Master of Science in Child Life program is focused on developing graduates known for their creativity, tenacity, and analytical approach to problem solving. Careers in healthcare demand professionals including those in child life to be creative in providing excellent patient care to support patients and contribute to positive patient experiences a metric healthcare institutions are rated by using the [Hospital Consumer Assessment of Healthcare Providers and Systems](#). This focus on positively impacting the patients' and families' healthcare experiences is a priority for graduates to be career ready in healthcare. Helping students develop tenacity skills for their work in healthcare will be a common thread throughout the graduate program curricula, because healthcare work is challenging. Students will build confidence in their academic knowledge that will then be applied in their clinical practice to build their competence creating credible professionals. Graduates of the program will be encouraged to self-reflect upon their professional resilience, assess, and find resources to address their mental health needs so they can persist in long-term healthcare careers. Healthcare is a quickly changing industry, which will require graduates of the master's program to flex and adapt with ease. This will require teaching students to develop various analytical skills to approach problems to maximize feasible, evidence-based solutions. The proposed Master's of Science Degree in Child Life will successfully prepare graduates who will positively impact patients' healthcare experiences.

Institutional Capacity to Deliver the Proposed Academic Program

The School of Human Ecology will utilize existing and new campus resources to develop, launch, and support the Master of Science in Child Life. Existing resources include the Volpe Library and Center for Innovation in Teaching and Learning. The program will be offered 100% online, and the Center for Innovation in Teaching and Learning as well as Information Technology Services already support other programs offering online courses.

Recruiting efforts will utilize current resources of enrichment funds located in the School of Human Ecology until the degree becomes financially self-supported. Existing office space is already assigned to the Child Life faculty member.

It is not anticipated that the Master of Science in Child Life would cause lost enrollment to other majors/programs on the TN Tech campus. The School of Human Ecology and the Whitson-

Hester School of Nursing currently collaborate on simulations and case study events with child life and nursing undergraduate students. It is expected that these collaborations will continue with the child life graduate degree allowing for expanded opportunities for transdisciplinary healthcare team collaborations.

Anticipated revenue from tuition and fees calculated at in state tuition rates and adjusted for tuition increases are found in the Financial Projections spreadsheet located in Appendix B. Existing faculty are sufficient to begin the proposed program. Dr. Cara Sisk, Certified Child Life Specialist is employed full time at TN Tech as an Assistant Professor. Dr. Sisk will be given release time to teach 9 credits per semester as well as she will teach the summer courses (12 credits/semester is the teaching load in the School of Human Ecology). The existing undergraduate Child Life program will continue to offer courses until current students graduate (May 2028); however, we will stop enrolling students in the undergraduate program this fall 2024 and will submit the appropriate paperwork to THEC. Dr. Sisk will have capacity to teach 1 undergraduate and 2 graduate courses each semester. The School of Human Ecology will seek approval to add a second graduate faculty member in Year 2 when enrollment is established, and the first cohort is ready for experiential learning hours. This second graduate faculty member will assist with teaching the undergraduate courses as well. It is our intent to leave 1-2 Child Life undergraduate courses on the Human Development and Family Science program of study as recruiting courses. Existing current faculty members Dr. Elizabeth Ramsey and Dr. Rufaro Chitiyo have expertise in Human Development and Family Science and are available to teach one graduate course for Child Life each semester. Dr. Chitiyo already teaches one graduate course each fall semester (HEC 5025 Cultural Issues in Health) that is also offered in the MS in Community Health & Nutrition program and will also be used on the MS in Child Life curriculum. The School of Human Ecology does have funding available to hire adjuncts as needed to help with teaching of undergraduate Child Life courses. Please see new Appendix C for a listing of current industry partners/clinical placements that have been used by the undergraduate Child Life program.

Existing Programs Offered at Public and Private Tennessee Institutions

Program Distinction. The proposed Master of Science Degree in Child Life is distinctive from programs offered by other academic institutions in Tennessee in relation to being the first undergraduate program, employing a full-time Certified Child Life Specialist faculty member to direct the program, and current Association of Child Life Professionals Academic Program Endorsement status. Tennessee Tech, a leader in the state for its undergraduate child life program, was the first state university initiating a child life program of study. The inclusion of a full-time CCLS faculty member continues to be a uniqueness unmatched by other state public academic programs. The undergraduate program being one of the first five undergraduate child life programs to receive Association of Child Life Professional's Academic Program Endorsement in 2019 represents not only leadership in excellence at the state level, but nationally. Tennessee Tech's commitment to child life through the initiation of a Child Life Master's Degree continues

the university’s leadership to benefit the psychosocial well-being of children and families in the state and beyond.

The Association of Child Life Professional’s Academic Directory lists 3 Child Life Academic Programs in Tennessee. https://online.childlife.org/clcssa/rflssareferral.result_page

1. Tennessee Technological University, Cookeville, TN
2. University of Memphis, Memphis, TN
3. Vanderbilt University, Nashville, TN

Internet search results show these child life academic programs in Tennessee (Table 1).

- All offer on-campus course delivery, none are online.
- Only one, a private institution, offers a master’s degree.
- Only Tennessee Tech University and Vanderbilt University employ a full-time faculty member with the Certified Child Life Specialist credential.

Table 1. Child Life Academic Programs in Tennessee

Institution	Public or Private	Degree	Program	CIP	Course Delivery	Certified Child Life Specialist Faculty Full-time	Degrees Awarded		
							2020-2021	2021-2022	2022-2023
East TN State University	Public	Bachelor of Science	Human Services	27.44.00 00	On-campus	None	64	36	46
East TN State University	Public	Certificate in Child Life		No CIP code on API search	On-campus	None	N/A	N/A	N/A
University of Memphis	Public	B.P.S	Professional Studies, Child Development and Family Studies	21.30.99 99.04	On-campus (online option)	None	32	33	37
University of Memphis	Public	B.P.S	Professional Studies, Child Life Specialist	21.30.99 99.04	On-campus (online option)	None	0	1	0
Lipscomb University	Private	Bachelor of Arts or Science	Family Science, Child Life Specialist Track	No CIP code in API Search	On-campus	None	0	0	3
TN Tech University	Public	Bachelor of Science	Human Ecology	19.0101	On-campus	1 Full-time CCLS Faculty	67	53	52
			Child Life Concentration		On-campus		2	4	7

Note: Tech counts of Human Ecology program awards includes those reported in Child Life concentration

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Vanderbilt University	Private	Master of Education	Child Studies, Applied Professional Track	No CIP code in API Search	On-campus	1 Full-time CCLS Faculty	5	16	18
			Child Life		On-campus		3	8	11
Note: Results for Vanderbilt Master's of Education in Child Studies, applied track only									

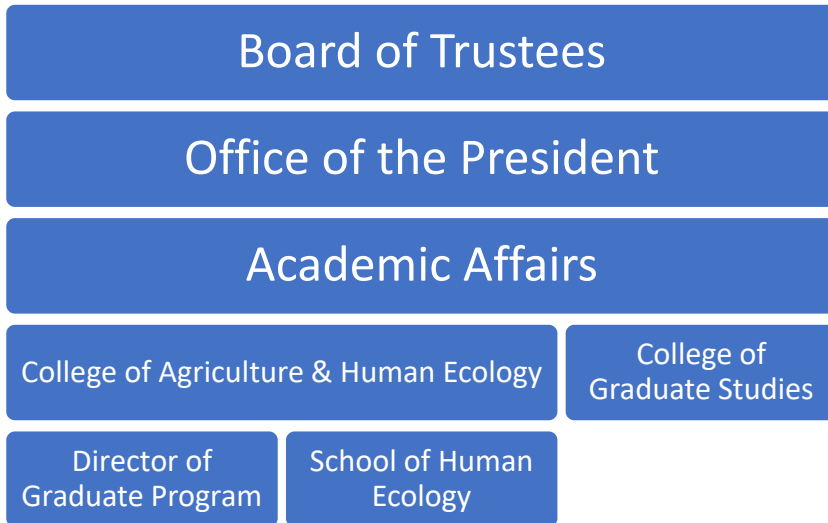
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Accreditation

Tennessee Tech's child life undergraduate program was one of the first five undergraduate child life programs in the nation to receive Association of Child Life Professional's Academic Program Endorsement in 2019. There are 12 endorsed child life master's programs across the nation and one in Canada. A top priority goal for Tennessee Tech's child life master's degree program will be to apply for Graduate Academic Endorsement or the current iteration of accreditation from the Association of Child Life Professionals once the program is established.

Administrative Structure

The Child Life Program's Certified Child Life Specialist faculty member will serve as the program director in collaboration with the Director of the School of Human Ecology who serves as the administrative director of the school.



Section III: Feasibility Study

Feasibility Study: M.S. in Child Life Tennessee Technical University

Introduction

Child life is an emerging academic discipline and growing clinical profession. Academic preparation for those interested in working as child life specialists is varied, but many students and professionals are seeking master's level education. While a master's program with a child life focus exists in the state of Tennessee, it does not offer online instruction. Location of academic institutions is a barrier for many who wish to pursue master's degrees, as is flexibility in schedule for those who are already working in clinical roles. The undergraduate child life program at Tennessee Technological University (TTU) is endorsed by the Association of Child Life Professionals (ACLP), demonstrating the high quality and rigor of the curriculum and pedagogy offered at this institution.

Child life academic programs are important for the ongoing growth of the child life profession. Support from faculty who have the Certified Child Life Specialist (CCLS) credential is crucial for navigating entry to the profession and for professional development. This feasibility study examined multiple sources of data to explore the potential impact of the proposed online master's degree program in the School of Human Ecology at TTU.

Student interest

Survey overview

A survey was distributed to current students and alumni of the child life undergraduate program at TTU. The purpose of this survey was to determine potential interest in an online master's program in child life at TTU. The results from the survey demonstrate the program's potential among a sample of students familiar with TTU.

Survey methods

Two electronic surveys were created using Qualtrics. The first survey targeted current undergraduate child life students, and the second survey targeted recent graduates (i.e., graduated within the past 5 years) of the undergraduate child life program. An email was sent to these groups on September 8, 2023 with distinct links to each survey by student status. Responses for both surveys were collected through September 15, 2023.

Both surveys included questions regarding potential interest in an online master's program in child life at TTU. Current students were asked questions regarding their motivation to enroll at TTU, their feelings about obtaining child life clinical internships, and their perceptions on the role of master's level education for reaching child life career goals. Alumni were also asked questions regarding their motivation to enroll at TTU, their current professional affiliations, and their perceptions on the role of master's level education for reaching child life career goals. Both surveys provided opportunities for respondents to include comments to elaborate on their answers.

Sample

The undergraduate child life program is in the School of Human Ecology at TTU. Current and former students of the program were recruited to participate in the current study. Of the

29 current undergraduate students in child life at TTU, 11 responded to the survey (37.9% response rate). A representative sample of 11 recent alumni from the undergrad child life program at TTU were contacted, and 7 responded to the survey (63.6% response rate).

Results

Current students. Eleven current students in the undergraduate child life program at TTU participated in this study. The total sample included representation from all undergraduate classifications, ranging from freshmen to seniors. A majority of the sample chose to attend TTU due to the availability of a degree program in child life. When asked whether they would be interested in an online master's degree program in child life at TTU, most participants (72.7%) reported being either potentially or definitely interested. See Table 1 for more information.

The current students who participated in the study offered more insights through open-ended feedback. For instance, when asked about their motivation to enroll at TTU, students commonly reported that the ACLP endorsement of the program at TTU and the location of the program were important to them. When commenting on the potential availability of an online master's degree program at TTU, one respondent said, "it would be much more convenient to the academic process of anyone pursuing a child life degree." The online emphasis stood out to other interested participants as well, with another student noting that the program would, "give me the flexibility to work and pursue a MS" simultaneously.

Most current students are very or extremely concerned about not obtaining a child life clinical internship prior to graduation from the undergraduate child life program. However, some students report that they would find a master's degree in child life helpful to achieving their career goals. As one student said, it would "advance my knowledge on the subject of child life and make me more qualified." Another student echoed this sentiment by sharing that, "it would set me above others and provide more opportunities." Master's level educational opportunities are important to child life emerging professionals.

Alumni. Seven alumni who recently graduated from the undergraduate child life program between 2020 and 2023 responded to the survey. Majority of alumni (71.4%) reported that their reason for enrolling at TTU was because the university offered a child life program. While most respondents (71.4%) reported not currently practicing as child life specialists, majority still reported potential or definite interest in an online master's degree in child life at TTU (57.2%). See Table 2 for more information.

Two alumni reported that they are currently working as child life specialist. One additional participant noted that, while they are not currently working as a child life specialist, they are still pursuing the profession and aim to take the child life certification exam soon. Of the alumni that reported not currently working in the child life profession, some still reported that their current careers aligned with the child life curriculum offered at TTU.

Alumni who were interested in the availability of an online master's program in child life at TTU demonstrated understanding of the value of higher education. For instance, one person said, "I am passionate about furthering the profession and education of child life, and believe this [degree] would be another tool to achieve that." Among the students not personally interested in pursuing a master's degree in child life, they still expressed interest in the program

being available at TTU. More specifically, one respondent said they know firsthand that, “the education would be exemplary and would help people achieve their career goals.”

The on-campus undergraduate child life program enrolls students from Tennessee and various other states. In 12/2022, 29% of students were from out of state (see Table 2 below). In addition, student contacts to the School of Human Ecology’s Website from May 2019-September 2023 showed 27 out of 54 (50%) contacts inquired about a MS degree in Child Life and 14 out of 54 (26%) were regarding online child life programming, which is consistent data supporting students’ interest for an online MS degree in Child Life. These inquiries were from students across the nation. Offering the MS in Child Life online, we expect continued attraction of students from Tennessee, the region, and nationally. An Indeed.com search of Child Life Specialists job openings in TN (3.11.24) revealed 4 openings: Johnson City, Chattanooga and 2 in Nashville. An Indeed.com search of Child Life Specialist job openings in the United States (3.11.24) revealed 212 openings.

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Table 2. Child Life Undergraduate Program Out of State Students Enrolled

12/2022 Out of State students = 10/35 = 29% from out of state

Cohorts	Number of Students	States
8/2020	2	GA, IL
8/2021	8	LA, WI, GA, SC, FL, NC, PA, GA
8/2022	3	IN, GA, OH
	Total Students = 13	States Represented
		FL - 1
		GA - 4
		IL - 1
		IN - 1
		LA - 1
		NC - 1
		OH - 1
		PA - 1
		SC - 1
		WI - 1

Local and regional need/demand

The child life profession is relatively young compared to other healthcare occupations in the United States. Although rooted in the early 20th century, the profession did not see rapid growth until the 1980s. When the first Child Life Council (CLC) was formed in 1983 there were only about 235 professional members (Sisk & Daniels, 2021). The child life profession established and published its mission, values, vision, and operating procedures in 1997 and by the early 2000s reported having around 3,000 professional members with over 470 documented clinical programs (Sisk & Daniels, 2021). Now, the child life profession has over 6,000 members. Child life research is a burgeoning area of the profession and while publications have grown significantly over the past decade, historical data remains limited. Therefore, this analysis will include information regarding the healthcare industry as a whole supported by recent research findings available on this specific profession.

As in past years, the healthcare industry is currently experiencing shortages in a variety of occupations both locally and nationally. According to the Tennessee Higher Education Commission (2023), healthcare occupations in the state of Tennessee constitutes eleven of the top fifteen occupations experiencing the greatest supply gaps in 2023. This factor was based on “the numbers of job openings exceeding resumes for occupations requiring postsecondary education” (p. 44). These statewide employment shortages have increased the demand for individuals with post-secondary education and training in health-related fields. “Program completers in the health sciences have some of the highest employment rates of any career cluster. Healthcare and life sciences is a TNECD target industry. Investment in our universities and world-class research facilities with this sector will complement and enable the development of a capable workforce” (p. 44).

Tennessee institutions of higher education offer a variety of academic programs in the health sciences that will provide graduates with both general and specialized training needed to fulfill these in-demand occupations. According to a database search of CollegeforTN.org, there are over fifty colleges and universities across the state that offer health related academic programs. However, only three of them offer programs specifically for child life specialists: the University of Memphis, Vanderbilt University, and Tennessee Technological University. Of these programs, Vanderbilt University is the only institution that offers graduate level child life training, but it is not an ACLP endorsed program nor is it offered online. Currently there are only ten ACLP endorsed graduate level child life programs in the U.S. Of those programs, only one is located in the southeast region, University of Georgia, and it is not available online. Of the non-ACLP endorsed graduate child life programs, there are ten available across the U.S. that offer online classes, but none of them are located in the southeast region.

There is a clear gap in the state and region for available child life training programs that are ACLP-endorsed and offered online at the graduate level. Therefore, this proposed online ACLP-endorsed graduate child life training program will be the first of its kind in the southeast region and among very few others available across the U.S. This will not only meet the needs of students from the state of Tennessee, but will also serve students across the southeast region, and will attract students from across the nation who are looking for the flexibility afforded by an online master's program.

Employer need/demand

According to the U.S. Bureau of Labor Statistics (2022), the U.S. economy is projected to add 8.3 million jobs between 2021 and 2031 with a 0.5 percent annual growth rate in employment opportunities. Of these jobs, the healthcare and social assistance sector is projected to create the most jobs, which will increase the demand for various healthcare professionals. Nationally, employment opportunities across healthcare professions are expected to grow thirteen percent over the next decade with similar forecasts projected in the state of Tennessee. Most of Tennessee's highest employment needs will be in local healthcare services industries, such as hospitals and clinical settings (Tennessee Higher Education Commission, 2023).

Certified Child Life Specialists (CCLS) have employment opportunities in numerous settings that focus on pediatric healthcare and support. Potential employers include children's hospitals, pediatric units within general hospitals, pediatric outpatient clinics, pediatric hospice and palliative care facilities, pediatric oncology centers, pediatric mental health centers, pediatric rehabilitation centers, private practice healthcare facilities, educational institutions, and nonprofit or community organizations. Job opportunities and employment outlook varies by geographic location and clinical setting. According to the 2021 ACLP Salary Survey, child life professionals across southern states in the U.S. earned an average salary of \$49,000- \$53,000 per year. Higher salaries were reported for those with graduate degrees, more experience in the profession, and those working in leadership roles. Although there has been an increase in the number of CCLS in the U.S. (ACLP, 2022), there remains a staffing shortage across the profession. In a 2022 report, Lindsey Heering, ACLP Board of Directors President, stated that clinical child life programs were experiencing a staffing crisis with multiple positions left unfilled (Heering, 2022). This could be due in part to the inadequate number of qualified CCLS credentialed professionals needed to fill open child life positions (Sisk et al., 2023).

Healthcare occupations are expected to see the highest employment growth in the next decade and typically require a degree, certificate, and license to practice. Educational standards have increased across the healthcare industry due to factors such as advancements in medical knowledge, patient safety concerns, quality of care, and the need for more specialized healthcare training (World Health Organization, 2013). The World Health Organization (WHO) stated that across the globe, shortages in healthcare workers are accompanied by an imbalance of skill. "More professional health workers are needed, but it has become clear that efforts to scale up health professionals' education must not only increase the quantity of health workers, but also address issues of quality and relevance in order to address population health needs" (2013, p. 5). Furthermore, the WHO claimed that "scaling up education and training is a critical component of the strategies to strengthen the health workforce" (2013, p. 21). George Thibault, Professor of Medicine and Medical Education at Harvard University, echoed this sentiment by stating, "I have witnessed in the past decade a significant openness and willingness to change health professions education with notable experimentation in both prelicensure (undergraduate) and post-licensure (graduate) education. These changes are heartening, but much more needs to be done to keep pace with this rapidly changing health-care world and changing societal demographics and expectations" (2020, p. 686).

According to the ACLP, the minimum requirements to become a CCLS are a bachelor's degree with either (1) graduation from an ACLP-endorsed child life academic program or (2)

completing a list of acceptable courses, and the completion of at least 600 clinical hours under the supervision of a CCLS. Although a bachelor's degree is the current minimum requirement for CCLS licensure, a recent study by Sisk, Cantrell, and Wittenberg Camp (2023) found that master's prepared applicants are more likely to receive an internship position and therefore are better prepared for a career in the child life profession. The ACLP recognizes that the clinical internship has become a barrier for many candidates due to limited availability of clinical placements. Not only will this proposed master's degree provide candidates an advantage when applying for highly competitive clinical internships, it will also provide a higher level of preparation and competency for working in the child life profession. Additionally, the proposed master's degree program would provide child life professionals that are already currently working with a path for continued professional development.

External Research/Community and Industry Partnerships

Child life professional employer survey

A survey was created to gather more information on the current state of child life staffing at clinical sites. The purpose of the survey was to better understand the availability of internship opportunities and the prevalence of job openings at different types of clinical settings across the United States and Canada. Additionally, the survey aimed to explore the role of master's level education in preparing candidates for clinical experiences and job placement.

Methods

An electronic survey was developed on SurveyMonkey and targeted responses from clinical sites in the United States and in Canada. A flyer was developed including survey information and a QR code to direct participants to the survey. The flyer was distributed via email to child life program leaders and posted on the Facebook group page titled, *Certified Child Life Specialists*. The Facebook group contains over 2,000 members and is a site frequently used for recruiting participants in surveys. Recruitment began on July 26, 2023 and the survey was closed on September 20, 2023.

The survey included questions regarding program characteristics, including location and size, as well as staffing questions, such as whether or not the program was fully staffed, number of current job openings, and projections of growth for the program in the next 5 years. Questions were also asked regarding number of clinical internship opportunities provided, and whether preference is given to master's prepared internship and job applicants.

Sample

Clinical child life programs in the United States and Canada were recruited for participation. Participants were instructed to indicate the city and state of their program as well as the name of their institution in order to check for duplicate responses. Programs ranging from 1 child life specialist to 60+ child life specialists were encouraged to respond.

Results

There were 74 child life clinical programs who responded to the survey, majority of which were hospital programs (94.6%) followed by community settings (2.7%) and other settings, such as outpatient programs (2.7%). Most programs were in the United States, and two

responses were received from programs in Canada. Figure 1 displays the number of programs from each of the 33 U.S. states that participated in the survey.

Programs ranged in size from employing 1-5 child life specialists to employing 60+ child life specialists. Only 28.4% of child life programs were fully staffed at the time of completing the survey, with 17 programs reporting having 4 or more job openings. Despite such incomplete staffing, most child life clinical programs continue to expect growth at their institutions in the next 5 years. Majority expect at least 1-3 new child life specialist positions to be added to their programs during that time. It is a professional responsibility for child life programs to offer opportunities to emerging professionals, such as clinical internships. Unfortunately, understaffing can lead child life programs unable to offer such experiences, due to a limited number of staff available to offer student supervision while also meeting patient care demands. Fortunately, of the programs that participated in the current survey, majority continue to offer at least 1-2 internship opportunities annually. See Table 3 for more information.

When asked about whether or not master's prepared candidates received preference for clinical internship placement or for job openings, programs varied in their responses. While majority of programs did not indicate giving preference to master's prepared applicants, more programs report preference for master's prepared internship candidates than for job applicants. This finding suggests that master's level education is one way for those interested in obtaining internships to stand out against undergraduate applicants. See Table 4 for more information.

It is important to note that some bias likely exists in self-reporting preferences for candidates. Future investigations should ask programs to report on whether their most recently accepted interns and new hires held master's degrees for a more accurate representation. Nevertheless, it is clear that master's level education prepares those to enter the profession. Another limitation of the current survey is that it did not ask questions regarding currently working child life specialists who wish to return for master's degrees. Obtaining a master's degree after obtaining certification and job placement is common for professionals who wish to extend their knowledge and expertise or to gain more experience with research, teaching, or leadership.

National and regional support

Child life educational programs are supported by several national and regional networks. The ACLP is the professional organization that offers support to child life academic and clinical programs. The ACLP is comprised of several volunteer-based committees and working groups that attend to professional issues. Notably, the ACLP is focused on supporting the emerging academic discipline of child life through ongoing endorsement of academic programs which offer curriculum that best prepare candidates for certification eligibility.

Perhaps more accessible and direct support comes from regional networking. Tennessee, Alabama, and Mississippi are the states that comprise the Southeastern Association of Child Life Specialists (SEACLP) regional group. SEACLP is organized by a volunteer-led leadership group, and members of SEACLP participate in the nomination and election of the leadership group. This year, Dr. Cara Sisk of TTU is the chair of SEACLP, which speaks volumes to her impact and community of support in this region.

Each year, the SEACLP leadership team plans and facilitates a think tank and a conference. These events help to bridge the partnerships between academic and clinical sites,

ultimately improving student and professional experiences. For instance, just this year a topic at the think tank included a discussion on the pathway from child life academic preparation to clinical profession. From this conversation, clinical sites worked to improve their internship application review processes, and one institution (St. Jude Children’s Research Hospital in Memphis, TN) has even made plans to expand their internship opportunities to offer placement to at least one regional student per internship cycle. This improvement will address a key barrier reported by emerging professionals who need to obtain an internship, which is difficulty securing placement within their local communities (Boles et al., Under Review).

Indeed, the support from both academic and clinical sites is robust, and there is a culture of helping each and every program succeed in their efforts to grow the child life profession. This culture is imperative to ensuring that students not only feel supported throughout their time in academia, but also as they begin to prepare to enter the workforce. See Appendix A for letters of support from national and regional child life leaders.

Conclusion

Similar to other occupations, changes are necessary to continue the advancement of research and development of the child life profession. Paul Thayer (2007) outlined five goals for growing this emerging evidence-based profession into a broader field of inquiry. One of those goals was the need for graduate level education to foster leadership and expand academic skills. Thayer’s proposal for expanding the educational standards within the child life profession is aligned with recommendations offered by the World Health Organization (2013) and George Thibault of Harvard University (2020). This increase in academic preparation will result in a pool of graduates who are better prepared to compete for limited clinical internships, who have a deeper skillset to better serve their patients, and a larger community of child life professionals who can contribute back to the field through advanced research.

The need for and viability of this proposed program is evident from the body of recent literature on the profession, expressed interest from current and past students, support from existing child life programs across the U.S., and multiple enthusiastic letters of support from child life leaders. This program is sustainable and the need for it will extend far beyond the first cohort of student graduates.

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Feasibility Study Tables and Figures

Table 1. Current student interest (n = 11)

Classification		Count	Percentage
	Freshman	3	27.3%
	Sophomore	3	27.3%
	Junior	2	18.2%
	Senior	3	27.3%
Child life program reason for enrolling at TTU			
	Yes	8	72.7%
	No	3	27.3%
Would be interested in an online master's degree in child life at TTU			
	Yes	2	18.2%
	No	3	27.3%
	Maybe	6	54.5%

Table 2. Alumni student interest (n = 7)

Graduation year		Count	Percentage
	2020	2	28.6%
	2021	1	14.3%
	2022	2	28.6%
	2023	2	28.6%
Child life program reason for enrolling at TTU			
	Yes	5	71.4%
	No	2	28.6%
Would be interested in an online master's degree in child life at TTU			
	Yes	2	28.6%
	No	3	42.9%
	Maybe	2	28.6%
Currently practicing as a child life specialist			
	Yes	2	28.6%
	No	5	71.4%

7.2

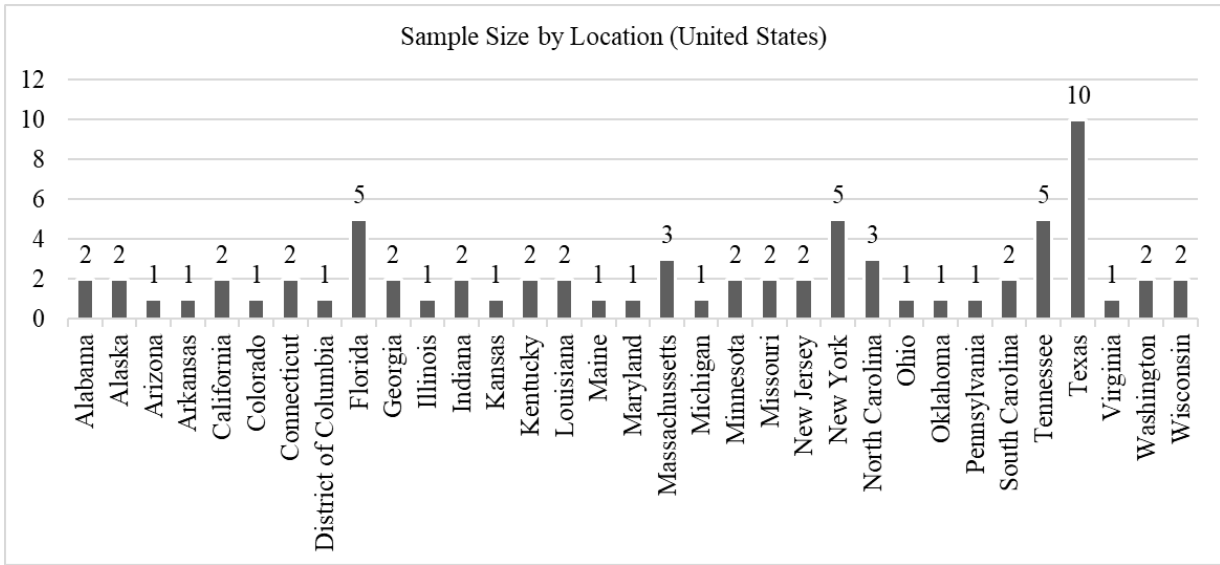


Figure 1. Sample size by location (United States)

7.2

<i>Table 3. Child life professional employer survey</i>			
Characteristic	Item	Count	Percentage
Type of clinical setting			
	Hospital	70	94.6%
	Community Setting	2	2.7%
	Other	2	2.7%
Program size (Number of part- and full-time child life positions)			
	1-5	21	28.4%
	6-10	12	16.2%
	11-20	15	20.3%
	21-30	11	14.9%
	31-40	7	9.5%
	41-50	3	4.1%
	51-60	0	0.0%
	60 or more	5	6.8%
Program fully staffed			
	Yes	21	28.4%
	No	53	71.6%
Number of job openings			
	0	19	25.7%
	1	12	16.2%
	2	14	18.9%
	3	12	16.2%
	4 or more	17	23.0%
Anticipation of growth in child life program (next 5 years)			
	Yes	43	58.1%
	No	9	12.2%
	Unsure	22	29.7%
Anticipated number of new child life positions (next 5 years)			
	0	10	13.5%
	1-3	49	66.2%
	4-6	11	14.9%
	7 or more	4	5.4%
Annual internship positions offered			
	0	22	29.7%
	1-2	28	37.8%
	3-4	18	24.3%

	5 or more	6	8.1%
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Table 4. Program preference for master's prepared candidates

	Item	Count	Percentage
	Program gives preference to master's prepared students for clinical internship positions		
	Yes	10	13.5%
	No	46	62.2%
	Unsure	18	24.3%
	Program gives preference to master's prepared job applicants		
	Yes	16	21.6%
	No	38	51.4%
	Unsure	20	27.0%

7.2

Section IV: Enrollment and Graduation Projections

It is estimated to enroll students in a cohort-based format for this graduate program. Based on undergraduate enrollment, the number of inquiries we have received in recent years about offering a graduate program, and the fact that no other such graduate program exists in TN at a public institution – the estimate of 5 students enrolling fall semester to begin the degree seems reasonable. An attrition rate of 10-20% is assumed for each year. Based on the resources available for online graduate programs at TN Tech related to instructional technology, it is estimated students will be supported throughout the degree resulting in an appropriate number of graduates each year from the program.

Table 3: Projected Enrollment and Graduation Rates

Year	Academic Year	Projected Total Enrollment in Fall Semester	Projected Full-Time	Projected Part-Time*	Projected Attrition**	Projected Graduates
1	2025-26	7	5	2	1	-
2	2026-27	11	8 (4+4New)	3	2	-
3	2027-28	14	10(6+4New)	4	2	2
4	2028-29	18	13 (8+5New)	5	3	4
5	2029-30	20	15(10+5New)	5	3	6

*The Part Time option will be available to the Degree Only students.

** An attrition rate of 10-20% for each year was assumed, and only for the full-time students.

Section V: Projected Costs to Deliver the Proposed Program

Faculty and instructional staff-Currently the School of Human Ecology employs a full-time faculty member, Dr. Cara Sisk who is a Certified Child Life Specialist and will become the Master’s degree Program Director. Dr. Sisk has been employed at TN Tech since 2011 when she was hired to start the undergraduate Child Life concentration within the BS in Human Ecology. She has successfully grown the undergraduate program from zero enrollment in 2011 to a consistent enrollment of 30+ students each year. Dr. Sisk will move from the undergraduate concentration to the graduate program director. A full-time, 9-month, lecturer position is being requested to teach undergraduate child life courses and focus on preparing graduate students for nationally competitive child life clinical practicums/pre-internship experiences and child life internships. This position will not be needed until 2025 when the degree starts. Dr. Sisk will receive 3 credits of release time each fall and spring semester to direct the graduate program; and will receive summer pay to teach the 2 summer courses required during the summer term. The new 9-month Lecturer position salary is estimated to be \$62, 500 and benefits would be \$27, 500 (44%).

Non-instructional staff- The School of Human Ecology employs a full-time Administrative Associate who will provide administrative support for the graduate degree program within the regular duties of the position. No new salary is requested.

Graduate assistants- No Graduate Assistantships are planned for the first year, but we do plan to offer a graduate assistantship. See Year 2 in the THEC Financial Projection Form for the addition of the graduate assistantship, which will require the student to be on campus. A tuition increase of 4% each year is assumed for the cost of the assistantship position. At this time it is not estimated that the number of assistantships would scale up over time due to the degree being an online degree.

Accreditation- the Association of Child Life Professionals does not offer accreditation to education programs. Instead, academic endorsement is available. A one-time endorsement application fee of \$1750 is included on the Financial Projections form as well as the annual maintenance fee of \$250; existing funds will be used to pay these fees.

Consultants- The School of Human Ecology contracted two consultants to prepare the feasibility study; each received a \$2000 stipend which was paid for by the School of Human Ecology. The costs associated with an external review are added into the Financial Projections form. It is estimated that travel costs to host an external review for 2 days would be: \$1000 for airfare round trip, \$300 for hotel (2 nights), \$200 for per diem and misc taxi costs for a total of \$1500.

Equipment- Each faculty member who will teach in this new graduate degree has a laptop and printer in their office with camera and scanning capability. The Lecturer position will require a laptop and a printer, (estimated at \$2500) but no other equipment is identified as being needed to deliver this degree. The cost of the laptop and printer for the new Lecturer position is estimated to be \$2500 and is included in the Financial Projections form in Year 1 (\$2500).

Information technology- TN Tech has an office of Information Technology Services (ITS) which provides computer resources, technical services, and support for instruction to all TN Tech faculty. Related to learning resources and support, TN Tech as the Center for Innovation in Teaching and Learning which provides workshops, trainings and consultations to faculty related to online teaching and learning. iLearn, powered by Brightspace D2L, is the online learning management platform provided by TN Tech to all students and faculty. All content for the MS in Child Life will be housed within this learning platform. The College of Agriculture and Human Ecology has a dedicated ITS Support Staff member who provides technical support to faculty related to computer and software needs. TN Tech provides a professional Teams account to each faculty member. Professional Zoom accounts are requested for all child life graduate faculty to ensure virtual communications with all online students.

Library resources- The Volpe Library provides a variety of resources to students and faculty including online journal databases, Interlibrary loan, RefWorks, and Research Poster Design. Additionally, Reference Library faculty members are available to work one on one with faculty to secure resources from other locations and to provide support. Numerous online databases are available to support this graduate degree:

Applied Science and Technology, Full text
Agency for Healthcare Research and Quality
BioMed Central (BMC)

CINAHL Complete
 Consumer Health Database
 Health and Medicine
 Medline Plus
 PubMed and PubMed Central
 PsycInfo
 Social Sciences Full Text
 Science.Gov
 Health and Medical Collection
 Health Source – Consumer Edition
 Public Health Database
 Public Library of Science (PLOS)

Marketing- this new degree program will be marketed through print, online and in person methods. A draft website page will be created when appropriate to begin to spread the word about this new graduate degree. The School of Human Ecology pays a monthly service fee to the Office of Communications and Marketing to receive a certain number of hours each month for website maintenance. Print brochures and post cards will be designed with assistance from the Office of Communications and Marketing. The School of Human Ecology already has funds for marketing of existing programs and will provide support to the MS in Child Life; only initial start up costs for Marketing in Year 1 are requested; maintenance of marketing will then be supported by the School of Human Ecology.

Facilities- Space is already in place to support this new degree program. Dr. Sisk has specific office space within Oakley Hall and she is supported by the School of Human Ecology administrative associate whose office is in proximity. The Lecturer position will require office space, which the School of Human Ecology has available. Faculty already have access to a work room which houses offices supplies and a copier; as well as a conference room shared by the Dean's office.

Travel- The School of Human Ecology already provides each faculty member with \$1000 in travel funds each year; to be used for professional development and travel to conferences. Dr. Sisk is supported to attend the ACLP Annual Conference, Southeastern Association of Child Life Conference, and Child Life Academic Society meetings annually. The new Lecturer will be supported with travel funds the same as every Human Ecology faculty member. There is no need to list travel money in the Financial Projections form as the School of Human Ecology has existing funds to support travel for the new Lecturer.

Other resources- the College of Graduate Studies provides support to graduate faculty and graduate students. TN Tech currently offers graduate degrees out of every college including Eds, PhD, and DNP degrees.

Section VI: Projected Revenues for the Proposed Program

Tuition- In projecting revenues, the tuition component includes both tuition and fees, such as online fees. The estimates for tuition and fees are based on projected enrollments and graduates outlined in Table 3, assuming in state graduate tuition and fees. Full time is assumed to be 9 credits fall and spring semesters, and 9 credits in summer for the Experiential Learning

students. Part time is assumed to be 3 credits in Fall and Spring semesters with no summer course. Revenue from summer courses is for the number of Experiential Learning students only. For Years 2-5, a 4% increase in tuition is assumed. See Financial Projections Form for the total revenues for each year.

Year 1: In state graduate tuition and fees based on 9 credits (Fall) and 9 credits (Spring) with enrollment of 5 Full Time students = \$5376 (9 cr Fall x 5 students) + \$5357 (9 cr Spring x 5 students) = \$53,760. Additional 2 students in summer experiential learning courses = \$5346 (9 cr summer) x 2 students = \$10,692. Part time for Year 1 = 2 students x \$1902 (3 cr Fall) and 2 students x \$1902 (3 cr Spring) = \$7608. Total Year 1 Revenue = \$53,760 + \$10,692 + \$7608 = \$72,060.

Year 2: In state graduate tuition and fees based on 9 credits (Fall) and 9 credits (Spring) with enrollment of 8 Full Time students = \$5591 (9 cr Fall x 8 students) + \$5591 (9 cr Spring x 8 students) = \$89,456. Additional 2 students in summer experiential learning courses = \$5559 (9 cr summer) x 2 students = \$11,118. Part time for Year 2 = 3 students x \$1978 (3 cr Fall) and 3 students x \$1978 (3 cr Spring) = \$11,868. Total Year 2 Revenue = \$89,456 + 11,118 + 11,868 = \$112,442.

Year 3: In state graduate tuition and fees based on 9 credits (Fall) and 9 credits (Spring) with enrollment of 10 Full Time students = \$5814 (9 cr Fall x 10 students) + \$5814 (9 cr Spring x 10 students) = \$116,280. Additional 4 students in summer experiential learning courses = \$5781 (9 cr summer) x 4 students = \$23,124. Part time for Year 3 = 4 students x \$2057 (3 cr Fall) and 4 students x \$2057 (3 cr Spring) = \$16,456. Total Year 3 Revenue = \$116,280 + 23,124 + 16,456 = \$155,860.

Year 4: In state graduate tuition and fees based on 9 credits (Fall) and 9 credits (Spring) with enrollment of 13 Full Time students = \$6046 (9 cr Fall x 13 students) + \$6046 (9 cr Spring x 13 students) = \$157,196. Additional 5 students in summer experiential learning courses = \$6012 (9 cr summer) x 5 students = \$30,060. Part time for Year 4 = 5 students x \$2139 (3 cr Fall) and 5 students x \$2139 (3 cr Spring) = \$21,390. Total Year 4 Revenue = \$157,196 + 30,060 + 21,390 = \$208,646.

Year 5: In state graduate tuition and fees based on 9 credits (Fall) and 9 credits (Spring) with enrollment of 15 Full Time students = \$6287 (9 cr Fall x 15 students) + \$6287 (9 cr Spring x 15 students) = \$188,610. Additional 5 students in summer experiential learning courses = \$6252 (9 cr summer) x 5 students = \$31,260. Part time for Year 5 = 5 students x \$2,224 (3 cr Fall) and 5 students x \$2224 (3 cr Spring) = \$22,240. Total Year 5 Revenue = \$188,610 + 31,260 + 22,240 = \$242,110.

In reviewing the Financial Projections form the line is gone that shows estimated profit; but it appears that revenue exceeds recurring expenses beginning in Year 3.

Grants-it is not estimated that any grant funding will be used

Other- no other funding source is identified.

Addendum

**TN Tech University Child Life Program Industry Partners
2011-2024**

7.2

Healthcare Organization	Location	Partnership
Norton Children’s	Kentucky	Internship Site
Children’s Hospital of Oklahoma University	Oklahoma	Practicum Site
Erikson Institute	Illinois	Practicum Site
Huntsville Hospital for Women and children	Alabama	Practicum Site Internship Site
Golisano Children’s Hospital	Florida	Practicum Site
East Tennessee Children’s Hospital	Tennessee	Practicum Site Internship Site
Connecticut Children’s Medical Center	Connecticut	Practicum Site
University of Pittsburgh Medical Center	Pennsylvania	Practicum Site
Children’s Hospital St. Francis	Oklahoma	Practicum Site
Willett Children’s Hospital	Georgia	Practicum Site
St. Jude Children’s Research Hospital	Tennessee	Practicum Site
Methodist Children’s Hospital	Texas	Practicum Site
LeBonheur Children’s Hospital	Tennessee	Practicum Site Internship Site
John’s Hopkins All Children’s Hospital	Florida	Practicum Site
Memorial Health Children’s Hospital	Georgia	Practicum Site
Vanderbilt Children’s Hospital	Tennessee	Practicum Site
Mattel Children’s Hospital	California	Practicum Site
St. Louis Children’s Hospital	Missouri	Internship Site
Children’s Hospital of Atlanta	Georgia	Internship Site
Cook Children’s Hospital	Texas	Internship Site
St. Barnabas Medical Center	New Jersey	Internship Site
Erlanger Children’s Hospital	Tennessee	Internship Site
Children’s Hospital of Wisconsin	Wisconsin	Internship Site
Our Lady of the Lake Children’s Hospital	Louisiana	Internship Site
Tri-Star Centennial Children’s Hospital	Tennessee	Internship Site
Joe DiMaggio Children’s Hospital	Florida	Internship Site
Cardinal Glennon Children’s Hospital	Missouri	Internship Site
MUSC Children’s Hospital	South Carolina	Internship Site
Lutheran Children’s Hospital	Indiana	Internship Site
Upstate Golisano Children’s Hospital	New York	Internship Site

New Academic Program Proposal (NAPP)

The following pages address components for the *New Academic Program Proposal*.

VII. Implementation Timeline

Item to Accomplish	Date
Accreditation considerations and/or SACSCOC if applicable	Jun 2024
Proposed dates for the external site visit	September 2024
Estimated date of submission of the external review report to THEC and TN Tech (within 30 days of site visit)	October 2024
Estimated date of TN Tech’s response to external review (within 30 days of external review receipt)	October/November 2024
Proposed date of TN Tech’s governing board meeting for proposal consideration	December 2024
Proposed date of THEC meeting for proposal consideration	January or March 2025
Recruit and enroll students. Pending THEC Approval	January-May 2025
First cohort begins coursework.	August 2025

7.2

VIII. Curriculum

The Child Life graduate curriculum will include coursework required for students to become academically Certification Eligible for the Child Life Professional Certification Exam. The combination of lifespan development, family science, and psychosocial practice makes this a strong practitioner-focused graduate program. The coursework includes advanced developmental courses across the lifespan, family theories, research, psychosocial assessment, interventions including therapeutic play, loss and bereavement, trauma informed care, and professional topics including ethical practice. Theoretical frameworks and research inclusion for evidence-based psychosocial practice expands the typical knowledge base of Child Life undergraduate studies while meeting the needs of students with bachelor’s degrees from various disciplines.

While the plan is to inactivate the undergraduate Child Life concentration in the School of Human Ecology, the sophomore level courses HEC 2250: Child Life Theory & Practice and HEC

2550: Children in Healthcare will remain in the undergraduate course catalog for the purpose of introducing undergraduate students to Child Life. This should foster student interest in the profession and encourage their pursuit of the MS Degree in Child Life.

Inactivating the undergraduate Child Life concentration dictates establishing a teach out plan for current students (Table 1).

Table 1. Teach Out Plan

Class & Graduation	Undergraduate Child Life Concentration Teach Out Plan							
	Faculty Teaching Courses by Semester							
	Fall 2024	Spring 2025	Summer 2025	Fall 2025	Spring 2026	Summer 2026	Fall 2026	Spring 2027
Seniors Graduating May 2025	HEC 4550 (3) Dr. Sisk	HEC 4590 (12) Dr. Sisk						
Juniors Graduating May 2026	HEC 3550 (3) Dr. Sisk	HEC 3560 (3) Dr. Sisk	HEC 3570 (1) Dr. Sisk	HEC 4550 (3) Dr. Sisk	HEC 4590 (12) Dr. Sisk			
	HEC 3591 (2) Dr. Sisk	HEC 3565 (3) Dr. Sisk						
Sophomores Graduating May 2027	HEC 2250 (3) Adjunct online	HEC 2550 (3) Adjunct online		HEC 3550 (3) Adjunct Online	HEC 3560 (3) Adjunct Online	HEC 3570 (1) Dr. Sisk	HEC 4550 (3) Dr. Sisk	HEC 4590 (12) Dr. Sisk
				HEC 3591 (2) Adjunct Online	HEC 3565 (3) Adjunct Online			
Fall 2024 First Year Freshman Graduating May 2028	Transition these students to the Human Development & Family Science concentration in the School of Human Ecology so they build the requisite knowledge to prepare them to apply for the MS Degree in Child Life at TN Tech.							

Academic Year 1:

Fall 2025 will be the first semester that Child Life graduate courses will be taught. Dr. Sisk will teach 2 graduate courses and 1 senior level undergraduate course (HEC 4550) for the fall semester in year one and Dr. Chitiyo will teach HEC 5025. In Spring 2026, Dr. Sisk will teach 3 graduate courses and 1 undergraduate course HEC 4590: Child Life Clinical Experience (internship) (Table 2).

As the graduate child life courses phase in, Dr. Sisk will transition to teaching graduate courses and the Director of the School of Human Ecology has agreed to pay adjunct instructors to teach

undergraduate child life courses (anticipate 4 courses need adjunct instructors in academic year 2025-2026) until the undergraduate child life cohorts graduate by May 2027 (Table 1). We are confident that it will be feasible to find this number of qualified adjunct instructors. Table 2 shows the undergraduate child life courses phase out and graduate child life courses phase in plan.

Table 2. Year 1 Child Life Graduate Courses Phase In Plan

Academic Year 1		
Fall 2025	Spring 2026	Summer 2026
Dr. Sisk	Dr. Sisk	Dr. Sisk
HEC 5500 3 credits	HEC 6515 3 credits	HEC 6570 3 credits
HEC 5510 3 credits	HEC 6535 3 credits	HEC 3570 1 credit
HEC 4550 3 credits	HEC 6520 3 credits	HEC 6565 1 credit
	HEC 4590 12 credits Internship	
9 credits	12 credits	5 credits

Academic Year 2:

With the new hire of the faculty lecturer in July 2026, the teaching assignments for academic year 2026-2027 are structured as shown in Table 3.

Table 3. Year 2 Child Life Graduate Courses Phase In Plan

Academic Year 2							
Fall 2026			Spring 2027			Summer 2027	
Dr. Sisk	Lecturer	Dr. Chitiyo	Dr. Sisk	Lecturer	Dr. Ramsey	Dr. Sisk	Lecturer
HEC 4550 3 credits	HEC 2250 3 credits	HEC 5025 3 credits	HEC 4590 internship 12 credits	HEC 2550 3 credits	HEC 6525 3 credits	HEC 6565 1 credit	HEC 6570 3 credits
HEC 5500 3 credits	HEC 5510 3 credits		HEC 6515 3 credits	HEC 6535 3 credits			HEC 6575 3 credits
HEC 6500 3 credits	HEC 6510 3 credits		HEC 6530 3 credits	HEC 6520 3 credits			
			HEC 6550 3 credits	HEC 6540 3 credits			
9 credits	9 credits	3 credits	12 credits	12 credits	3 credits	1 credit	6 credits

7.2

Program-specific Goals

The Master of Science Degree in Child Life offers graduate students the opportunities to enhance their academic knowledge for application to Child Life clinical practice.

GOAL 1. The MS in Child Life will prepare graduates to uniquely address the psychosocial needs of children and families, in healthcare and stressful life experiences, to enhance quality of life and foster positive health outcomes.

GOAL 1 Objectives:

1. At least 80% of students complete program requirements within 3 years.
2. At least 80% of program graduates who respond to exit surveys will indicate they feel more than adequately prepared to address the psychosocial needs of children and families.

GOAL 2: The MS in Child Life will prepare graduates to advance clinical practice through application of research to evidence-based practice.

GOAL 2 Objectives:

1. At least 80% of program graduates who respond to exit surveys will rate the quality of the Child Life graduate program as Good to Excellent.
2. At least 80% of program graduates who respond to exit surveys will indicate they feel more than adequately prepared to apply research to evidence-based clinical practice.
3. At least 75% of employers who respond to the employer survey will rate the quality of the child life graduates academic preparation for clinical practice as Good to Excellent.

Program goals will be assessed via student exit surveys upon graduation and employer surveys.

Student Learning Outcomes

The Association of Child Life Professionals publishes the Child Life Competencies. The most current version is found in Appendix E. The Child Life Competencies provide academic programs with the minimal level of acceptable practice as defined by the Child Life Council. The Competencies are organized into four domains:

- I. Care of Infants, Children, Youth and Families
- II. Professional Responsibility
- III. Education and Supervision
- IV. Research Fundamentals

The MS in Child Life courses are designed to incorporate these competencies with depth and breadth across the curriculum and utilizing a variety of learning strategies and assessment methods.

The following Student Learning Outcomes provide the foundation for the curriculum:
 Graduates of this degree will:

1. develop critical inquiry and advocacy skills required for the provision of holistic child life practice and quality psychosocial care (assessed in HEC 6550 Professional Topics & Ethical Practice)
2. incorporate cultural competence in child life assessment and psychosocial interventions (assessed in HEC 6540 Child Life Intervention)
3. build interdisciplinary knowledge while integrating professionalism in practice (assessed in HEC 5500 Foundations of Child Life)
4. ensure ethical responsibility relevant to child life perspectives, policies, and practices (assessed in HEC 6550 Professional Topics & Ethical Practice)
5. effectively communicate learning, research, and best practices verbally and in writing (assessed in HEC 6515 Research in Child Life)
6. create supportive, therapeutic relationships with the children and families (assessed in HEC 6520 Families in Healthcare)

The Child Life Competencies are cross matched to the Syllabi and Assessment Methods on the document found in Appendix E.

Academic Program Requirements

The degree-only path will contain a total of 36 credit hours of graduate courses. The experiential learning path will include the 36 credit hours of graduate courses and an additional 7 credit hours of experiential learning for those students who plan to sit for the Child Life Certification Exam (Table 5). HEC 6565 Introduction to Child Life Clinical Experience (1 credit) will be offered the first summer to help prepare students seeking to apply for clinical internships the second summer. Three credit hours of experiential learning will be completed the first summer semester between academic years one and two at a Child Life practicum or pre-internship site. The remaining 3 credit hours of experiential learning will be available the semester after coursework completion for students required to have university affiliation upon receiving an external clinical internship via the nationally competitive process administered by hospital Child Life programs. Experiential learning credit hours are available for students pursuing a child life practicum or pre-internship experience and clinical internship requiring university affiliation. It is the student’s responsibility to locate, apply for, and secure experiential learning opportunities. The child life program director must approve organizations offering experiential learning.

Students can complete the degree-only path either full-time or part-time. The experiential learning path will be cohort-based requiring full-time status for coursework completion to ensure preparation for the competitive Child Life experiential learning opportunities. Coursework prerequisites and grade minimums will be set for students to be eligible for the experiential learning courses.

The 36 credit hours of graduate coursework were chosen based upon the Child Life Certification Commission Certification Eligibility Coursework Requirements and to accommodate additional

Child Life specific courses including Child Life Competencies (Appendix E). Benchmark data regarding credit hours were collected from the Association of Child Life Professionals Endorsed Graduate Child Life Academic Programs. The proposed graduate program containing 36 credit hours of coursework for the degree only is within range yet below mean, mode, and medians for other programs. The 43 credit hours for the experiential learning path is in alignment with endorsed Child Life graduate programs that include these hours in the degree. The Professional Topics and Ethical Practice course will serve as the Capstone Course requiring all other courses as prerequisites to serve as a culminating project. See Table 5 for the proposed program of study for Master of Science Degree in Child Life.

Accelerated Admission option to the degree-only pathway: Any Certified Child Life Specialist in good standing with the Child Life Certification Commission will be admitted with the following verification:

1. Current Child Life Professional Certification in good standing with the Child Life Certification Commission.

Existing and New Courses

The School of Human Ecology has created a new MS Degree in Child Life requiring all but one of the courses to be new (Table 4). Syllabi for each of the new courses are in Appendix D. All graduate courses will be offered online through TN Tech’s online course management system, Brightspace D2L, known as iLearn. During experiential learning opportunities, students will be present at a clinical site local to them while the courses will be facilitated online by the Instructor.

Table 4. Course Titles & Status

Course Title	Status	Credit Hours
HEC 5500 – Foundations of Child Life	New	3
HEC 5510 – Advanced Child & Adolescent Development	New	3
HEC 6515 – Research in Child Life	New	3
HEC 6535 – Adult Development & Psychosocial Care	New	3
HEC 6520 – Families in Healthcare	New	3
HEC 6565 Intro to Child Life Clinical Experience	New	1
HEC 6570 Child Life Pre-Internship Experiential Learning	New	3
HEC 6500 – Child Life Assessment	New	3
HEC 6510– Play: Theory and Practice	New	3
HEC 6525 – Trauma Informed Care for Helping Professions	New	3
HEC 6530 – Loss, Grief, & Bereavement	New	3
HEC 6540 – Child Life Intervention	New	3
HEC 6550– Professional Topics and Ethical Practice	New	3
HEC 6575 Child Life Clinical Experience	New	3
HEC 5025 – Cultural Issues Influencing Health	Existing	3

HEC 5025 Cultural Issues Influencing Health Lec 3. Credit 3.

Identifying the formation and significance of cultural identity among populations as related to food choices, behaviors, and nutritional status. Examining the impact of cultural differences and disparities in health care faced by various groups, especially rural communities and assessment of strategies for disease prevention and intervention.

HEC 5500 Foundations of Child Life Lec. 3 Credit 3.

An introduction to the child life profession and foundations including scope of practice, impact of illness, family-centered care, therapeutic play, preparation, and the Official Documents of the Association of Child Life Professionals and the Child Life Certification Commission. This course is taught by a Certified Child Life Specialist and meets the content requirements to meet Child Life Certification Commission Academic Eligibility Requirements.

HEC 5510 Advanced Child and Adolescent Development Lec.3 Credit 3.

Advanced discovery of child and adolescent development including cognitive, physical, social, and emotional development with application of knowledge to healthcare and stressful events children and adolescents experience.

HEC 6515 Research in Child Life Lec. 3 Credit 3.

Application of research design and methodologies to the child life profession.

HEC 6535 Adult Development and Psychosocial Care Lec. 3 Credit 3.

Prerequisite: HEC 5510. Advanced discovery of adult development including cognitive, physical, social, and emotional development with application of knowledge to psychosocial care for healthcare.

HEC 6520 Families in Healthcare Lec.3 Credit 3.

Prerequisite: HEC 5510. Comprehensive study of the family in healthcare experiences including applications to child life practice.

HEC 6565 Intro to Child Life Clinical Experience Lec.1 Credit 1.

Preparation for child life clinical experience (internship) including application processes, interviews, and communicating for competitive experiential learning positions in pediatric healthcare. This course is taught by a Certified Child Life Specialist and meets the content requirements to meet Child Life Certification Commission Academic Eligibility Requirements.

HEC 6570 Child Life Pre-Internship Experiential Learning Prac. 3 Credit. 3

Applied experiential learning including integration and application of child life, developmental, family and psychosocial knowledge and skills in a variety of settings that provide care to children and families as approved by the Child Life Graduate Program Director.

HEC 6500 Child Life Assessment Lec.3 Credit 3.

Prerequisite: HEC 5530. Child Life assessment techniques with children and families in healthcare and stressful life events.

HEC 6510 Play: Theory and Practice Lec. 3 Credit 3.

Advanced study of play theories and relevance of play modalities to child life practice including developmental, expressive, therapeutic, and medical play.

HEC 6525 Trauma Informed Care for Helping Professions Lec.3 Credit 3.

Prerequisite: HEC 5530. Exploring types of trauma and implications on both human and brain development, with an emphasis on parenting and supporting children who have experienced trauma, and the importance of trauma informed responses by professionals to individuals and families.

HEC 6530 Loss, Grief and Bereavement Lec. 3 Credit 3.

Prerequisite: HEC 5540. Advanced study of loss, death, grief, and bereavement and the impacts on individuals throughout the lifespan with focused applications to child life practice.

HEC 6540 Child Life Intervention Lec. 3 Credit 3.

Prerequisite: HEC 6500. Comprehensive study of child life psychosocial interventions with application to healthcare experiences and stressful life events.

HEC 6550 Professional Topics and Ethical Practice Lec. 3 Credit 3.

Prerequisite: HEC 6500. Advanced study of ethical practice in the child life profession. Comprehensive discovery of professional topics including scope of practice, self-reflection, professional development, working relationships, organizational structure, communication, advocacy, supervision, and program administration and evaluation.

HEC 6575 Child Life Clinical Experience Prac 3. Credit 3.

Experiential learning in a pediatric healthcare facility to develop clinical child life skills. Direct supervision by a Certified Child Life Specialist who meets internship supervisor requirements and is in good standing with the ACLP is required. In order to meet the Association of Child Life Professionals eligibility requirements to sit for the Child Life Certification Exam, the Child Life Internship experience must be a minimum of 600 clock hours.

Program of Study

The MS in Child Life will use Degree Works to monitor students’ progress through the program of study, designating degree only (36 credits) or degree plus experiential learning (43 credits).

Table 5. Program of Study & Faculty Teaching Courses

Fall 1 Courses	Credit	Faculty Teaching
HEC 5500 – Foundations of Child Life	Cr. 3	Dr. Sisk
HEC 5510 – Advanced Child & Adolescent Development	Cr. 3	Dr. Sisk
HEC 5025 – Cultural Issues Influencing Health	Cr. 3	Dr. Chitiyo
Spring 1 Courses	Credit	
HEC 6515 – Research in Child Life	Cr. 3	Dr. Sisk

HEC 6535 – Adult Development & Psychosocial Care	Cr. 3	Dr. Sisk
HEC 6520 – Families in Healthcare	Cr. 3	Dr. Sisk
Fall 2 Courses	Credit	
HEC 6500 – Child Life Assessment	Cr. 3	Dr. Sisk
HEC 6510 – Play: Theory and Practice	Cr. 3	New Hire - Lecturer
HEC 6525 – Trauma Informed Care for Helping Professions	Cr. 3	Dr. Ramsey
Spring 2 Courses	Credit	
HEC 6530 – Loss, Grief, & Bereavement	Cr. 3	Dr. Sisk
HEC 6540 – Child Life Intervention	Cr. 3	New Hire - Lecturer
HEC 6550 – Professional Topics and Ethical Practice	Cr. 3	Dr. Sisk
Total Degree Requirement: 36 credit hours		

Experiential Learning Courses

Summer 1	Credit	Faculty Teaching
HEC 6565 Intro to Child Life Clinical Experience	Cr. 1	Dr. Sisk
HEC 6570 – Child Life Pre-Internship Experiential Learning (minimum 120 hours)	Cr. 3	Dr. Sisk/Then New Lecturer
Summer 2	Credit	
HEC 6575 - Child Life Clinical Experience (minimum 600 hours)	Cr. 3	New Hire - Lecturer
Total Experiential Learning Requirements: 7 credit hours		

Table 6. MS Degree Only Comparison to MS Degree Plus Experiential Learning

Program of Study			
Master of Science in Child Life			
MS Degree Only		MS Degree + Experiential Learning	
Fall 1 Courses	Credit Hours	Fall 1 Courses	Credit Hours
HEC 5500	3	HEC 5500	3
HEC 5510	3	HEC 5510	3
HEC 5025	3	HEC 5025	3
Spring 1 Courses		Spring 1 Courses	
HEC 6515	3	HEC 6515	3
HEC 6535	3	HEC 6535	3
HEC 6520	3	HEC 6520	3
Fall 2 Courses		Summer 1- Exp Learning Hrs	
HEC 6500	3	HEC 6570 (Exp. Learning min 120 hours)	3
HEC 6510	3	HEC 6565	1
HEC 6525	3		

		Fall 2 Courses	
Spring 2 Courses		HEC 6500	3
HEC 6530	3	HEC 6510	3
HEC 6540	3	HEC 6525	3
HEC 6550	3		
		Spring 2 Courses	
Total	36	HEC 6530	3
		HEC 6540	3
		HEC 6550	3
		Summer 2-Exp Learning Hrs	
		HEC 6575 - Child Life Clinical Experience (minimum 600 hours)	3
		Total	43
Experiential Learning Track: 7 credit hours			
<p>Note: Experiential learning credit hours are available for students pursuing a child life practicum or pre-internship experience and clinical internship requiring university affiliation. It is the student's responsibility to locate, apply for, and secure experiential learning opportunities. The Child Life program director must approve organizations offering experiential learning.</p>			

Assessment and Evaluation

Assessment and evaluation are embedded across the curriculum as well as programmatic evaluation to ensure continuous quality improvement. Student achievement and academic performance will be assessed each semester through various assignments. When the Program Director advises students each fall and spring semester, a review of the program of study will occur to ensure the student is progressing as expected and any departures from the expectation will be discussed for performance improvement.

Programmatic evaluation will occur annually with student exit surveys, and post-graduation via employer survey. Additionally, TN Tech University administers an end of course evaluation, the Individual Development and Educational Assessment (IDEA). The IDEA evaluation has been used at TN Tech for over 20 years and serves to provide feedback to Instructors on each of their courses to improve teaching and learning. The IDEA evaluation is a nationally normed, standardized instrument that assesses student progress (perception of progress) on 13 educational objectives. Instructors can select the weight of the educational objectives that are most relevant to the course; and to add additional customized questions about teaching methodology. Students complete the IDEA evaluations anonymously via an online portal which is open for two weeks at the end of each semester. The online administration of this evaluation and its anonymity creates an opportunity for more honest feedback. Faculty receive the IDEA courses reports about one week after grades have been posted. Faculty can compare their

scores to an institutional norm and a departmental norm. Department chairs/directors have access to see each of their faculty member's scores and can use the data to facilitate professional development as needed.

A confidential, anonymous graduate exit survey will be administered at the end of the program via Qualtrics. This survey will capture data on Program Goal 1, Objective 2 and Program goal 2, Objective 1 and Objective 2. An employer survey will be administered via Qualtrics annually to seek feedback for Program Goal 2, Objective 3.

Institutional Effectiveness (IE) reporting will be completed annually by the Director of the School of Human Ecology in consultation with Dr. Sisk. This report is used by the university for SACSCOC compliance and to provide annual and longitudinal program data. It serves to document continuous quality improvement for program quality.

The Association of Child Life Professionals (ACLP) publishes the Standards for Academic and Clinical Preparation Programs which provides guidance on institutional resources, professional development, and curriculum requirements. The Association of Child Life Professionals offers a voluntary Endorsement Process for graduate programs. The MS in Child Life at TN Tech will apply for Endorsement status as soon as possible once the degree program is approved to be offered. Endorsement is a voluntary process of self-study and external review intended to evaluate, enhance and publicly recognize academic programs which meet the standards prescribed by ACLP. Endorsed programs receive Endorsement Status for five years, with annual reporting to document continued compliance.

Examples of assessment of Student Learning Outcomes within specific courses include HEC 5500 Foundations of Child Life: Theory to Practice Paper; HEC 5025 Cultural Issues Influencing Health: Reflection of Cultural Issues assignment; HEC 6500 Child Life Assessment: Case Study and Simulation Seminar; HEC 6540 Child Life Intervention: Developmental Simulation and HEC 6550 Professional Topics and Ethical Practice: Professional Development Portfolio. A variety of assessment tools will be used across all courses including application-based projects, case studies, simulations, article reviews, research papers, presentations, quizzes and discussion posts. These will be noted on the syllabi in each course.

Monitoring Student Performance and Student Retention

The TN Tech College of Graduate Studies has the following guidelines for probation and dismissal:

A graduate student is required to maintain a cumulative grade point average of at least "B" on all graduate courses taken as a graduate student. When a student's cumulative average in courses falls below 3.0, but not less than 2.0, the student will be placed on probation. If the cumulative average falls below 2.0, the student will be dismissed. If the term average, on all courses presented as part of the hours required for graduation, during any semester is less than 2.0, the student will be dismissed.

A graduate student will be dismissed from the graduate program if any one of the following conditions occurs:

1. Two consecutive semesters of probation (summer semester is not included if the student did not take a summer course).
2. The student’s current or cumulative GPA falls below 2.0.
3. Two grades of “F”.
4. Two consecutive semesters of “No Progress” grades assigned in thesis or dissertation courses.
5. Some graduate programs may have more stringent dismissal criteria. Students should confer with the department about such criteria. (Please see the information below for information specific to the Child Life program.)

With regards to both monitoring student performance in the Child Life Graduate program and retention and remediation procedures, the following sequence will be initiated. If the student is not performing satisfactorily as noted by the preceptor, program director, or faculty, the following procedures are followed:

1. The preceptor in the experiential learning site will notify the student of their unsatisfactory performance both verbally and in writing. The information will be provided to the Child Life Program Director and the Lecturer.
2. The preceptor in the experiential learning site will notify the Child Life Program Director and the Lecturer concerning the student’s unsatisfactory performance.
3. A conference will be scheduled and held to include the student, preceptor, and the Child Life Program Director and Lecturer. At this meeting a written plan for improvement will be developed and signed by all parties in attendance identifying the specific knowledge and skills that must be satisfactorily demonstrated and the expected time frame for completion of the improvement plan. This meeting may be held via virtual technology.
4. If the unsatisfactory performance is academic, the Program Director will explore tutorial support and remedial instruction available to the student. Student support services available to the student include those available through TN Tech’s provision of free tutorial support to all students. Americans with Disabilities ACT: Any student who needs learning accommodations should inform the professor immediately at the beginning of the semester. The student is responsible for obtaining appropriate documentation and information regarding needed accommodations from the TN Tech Accessible Education Center and providing it to the professor early in the semester. The office information is as follows:
 Location: Roaden University Center, 112
 Phone: (931) 372-6119
 Email: disability@tntech.edu
5. If performance improves to an acceptable level during the agreed upon time allotment as signed by all the parties involved, the student will be allowed to continue in the graduate program.
6. Further stipulations and remedial actions will be developed to facilitate improvement in performance. If the follow up does not provide appropriate improvement/change as noted and signed by all parties.

7. Students may be removed from the master's program and the Experiential Learning program for university academic misconduct policy violations, ethical behavior violations as outlined in the Child Life Certification Commission's Child Life Code of Ethics, and substance abuse, etc. in alignment with university policies.

Assessment of student learning will occur throughout the coursework and experiential learning. Formal assessment will occur during each course by faculty. Formal and informal assessment of students experiential learning will routinely occur. Preceptors will complete assessment reports after each rotation and will have opportunities to provide performance and progress reports regularly during the rotation. The Lecturer will be available for weekly phone calls or web-based meetings with preceptors and preceptors will provide a written evaluation of the student. Students will have the opportunity to evaluate the clinical experience and the preceptor at the conclusion of each rotation. All evaluations will be submitted to the Program Director for assessment to ensure quality experiential learning opportunities are being offered. Students who receive low scores from preceptors will be counseled by faculty to improve their performance.

Articulation and Transfer

Acceptance of Transfer and Other Credit

The College of Graduate Studies requires that students who wish to transfer graduate course credits from an accredited institution to TN Tech must request that the institution send official transcripts, including all grades, directly to TN Tech. The Program Director will determine whether transfer coursework is eligible for transfer to the student's program of study. Coursework transferred or accepted for credit toward a graduate degree must have a minimum grade of "B" in each course. Any decision on acceptance of transfer credit will follow SACSCOC Accreditation Standard 3.6.3. TN Tech's policy is to exclude grades earned in transferred courses from the calculation of grade point averages. TN Tech Policy #283 (General Graduate Transfer Credit Requirements) provides additional information on Transfer Credit.

IX. Students

Academic Standards

Admission

Applicants must submit the following for admission consideration:

1. Online application for graduate admission and the nonrefundable application fee;
2. Official transcripts of undergraduate and graduate credit from all institutions attended;
3. Undergraduate degrees from regionally accredited college or university accepted include: human development and family science, family and consumer sciences, health sciences, nursing, social work, and psychology. Other undergraduate degrees not specifically listed here will be reviewed based on transcript content;
4. Prerequisite undergraduate coursework must include:
 - a. A minimum of 1 developmental course including ages 0-18 (early child, middle child, adolescent development) equivalent to HEC 2200: Development of Young Children: Conception to age 6 and HEC 3500: Development Middle Childhood and Adolescence.

- i. Lifespan development courses will not be considered, because in-depth knowledge of children and childhood is required. Grade of B or higher required.
5. Undergraduate Cumulative GPA of at least 3.0 on a 4.0 scale.
6. Volunteer/Work/Practicum Experience: Applicants must have a minimum of 50 hours of volunteer, practicum, or paid work experience in a child focused or child and family services setting, and experiences with children in healthcare settings supervised by a Certified Child Life Specialist are preferred.
7. References (2) – when the application is submitted provide the contact information for two references. An email will then be sent to these references to complete an online recommendation form. At least one reference should be from a former college or university instructor with the second reference from someone who has observed the applicant interacting with children and adolescents. Both references must be able to speak to the applicant’s potential for success in a child life graduate program. The application is not complete until these recommendation forms are submitted by your references.
8. Applicants will indicate on the graduate application they are applying to only the Master of Science Degree in Child Life or both the Degree and the Experiential Learning Track – The Experiential Learning Track has additional admission requirements.
9. Resume – upload a professional resume (no more than 2 pages).
10. Personal Statement – upload a separate document, which includes the following: state why you have the knowledge, skills, abilities, and experiences to succeed in the child life graduate degree program. This will serve as a professional writing example and must use professional, formal language and tone, correct grammar, spelling, and syntax. This statement should demonstrate your interest in TN Tech’s child life degree program and how it will help you meet your career goals. Limit the Personal Statement to a maximum of 1,200 words or fewer and specifically address the following questions in the personal statement:
 - a. Explain what a child life specialist is and the child life specialist’s role and responsibilities on the healthcare team.
 - b. What are your professional goals; elaborate on future career plans and the motivation for pursuing a MS in Child Life.
 - c. In what ways will the MS in Child Life build upon your current knowledge, skills, and abilities?
 - d. How have you prepared yourself for success in this graduate degree program?
 - e. Elaborate on your unique story that motivates you to seek a child life graduate degree.

Notes:

1. Applicants determined to be competitive upon review of the application requirements will be invited to interview with the Program Director and an admissions team via an online platform (face-to-face) for further consideration in the selection process.

2. Applicants are selected on a competitive basis and, therefore, admission is not granted to all applicants who meet the minimum requirements.

Application deadline for degree seeking students varies based on the semester you wish to enroll. Application deadlines may be found on the College of Graduate Studies “How to Apply” section of the website.

Those interested in the experiential learning necessary to become a Certified Child Life Specialist, must apply by the December 15 deadline for a Fall start date. If a cohort does not fill, applications for a Fall start date will be accepted until April 15.

Additional Admission Requirements – Experiential Learning Track

In addition to the requirements for admission to the Master of Science in Child Life as stated above, applicants who want to also be admitted to the Experiential Learning Track must provide:

1. Evidence of Work/Volunteer Experience – documentation of 100 hours of work or volunteer experience in child focused or child and family services settings must be completed within four years of application. Of the 100 hours, at least 50 hours must be in a child life setting supervised by a Certified Child Life Specialist. The Experiential Track Supplemental Form must be completed to document these experiences. This form will be uploaded with the Graduate application and is available on the College of Graduate Studies Online Forms webpage.
2. Prerequisite coursework for applicants who do not have a Child Life Clinical Experience Verification Form from a Child Life Clinical Internship or are not Certified Child Life Specialists, the following prerequisite coursework must have been completed within five years from an accredited academic institution:
 - a. A minimum of 1 development course including ages 0-18 (early child, middle child, adolescent development). Lifespan development courses will not be considered, because in-depth knowledge of children and childhood is required.
 - b. The Coursework Verification Form must be used to confirm coursework completion.
3. Personal Statement: In addition to the questions listed above for the Personal Statement, applicants for the Experiential Learning Track should include why they are pursuing the Certified Child Life Specialist (CCLS) credential in a minimum of 500 words and maximum of 1000 words.

Retention

Students will be individually advised by the Program Director each fall and spring semester, which provides the relationship building necessary to contribute to student retention. In addition, the Lecturer will virtually meet with students individually a minimum of two times per month for experiential learning support.

Graduation Requirements

To earn the Master’s Degree in Child Life the student must:

1. Complete all graduate courses while maintaining a cumulative GPA of 3.0 or higher.
2. Perform in a professional and ethical manner.

Graduation information is available in the College of Graduate Studies Student Handbook on the College of Graduate Studies webpage (<https://www.tntech.edu/graduatestudies/gradstudent-info.php>). Additional details related to graduation may be found on TN Tech's Registrar's webpage at (<https://www.tntech.edu/records/graduation.php>).

Comprehensive Examination

The College of Graduate Studies requires that each candidate must pass a comprehensive examination conducted by the candidate's graduate advisory committee at or near the completion of the course requirements for the graduate degree. The examination, which may be oral, written, or both requires the student demonstrate breadth of knowledge in the discipline, depth in specific areas, and the ability to apply what has been learned. Some programs require a capstone course in which the final courses completion is used in place of the comprehensive examination. The MS in Child Life will require a capstone course: HEC 6550: Professional Topics & Ethical Practice that will replace the comprehensive exam in alignment with Graduate Studies' policy.

Marketing and Recruitment

It is the intent of the MS in Child Life degree program to recruit, retain, and graduate a diverse population of students including underserved and historically underrepresented students. Graduate faculty will work with the College of Graduate Studies and the College of Agriculture and Human Ecology to promote the degree. The MS in Child Life degree will be delivered as a fully online program open to all students who meet the admission criteria whether students are in Tennessee or out of state. The online degree program provides accessibility to student populations not served through on-campus degree programs. Students enrolled in the Experiential Learning courses will have set schedules arranged at the beginning of each semester.

The MS in Child Life will be marketed through print, online, and in-person methods. A webpage will be created through assistance with TN Tech's Webmaster. Brochures and post cards will be designed with the help of Marketing and Creative Services and will be ready for distribution in March 2025. Advertisements will be submitted to the Association of Child Life Professional's membership marketing outlets and a vendor booth will be reserved for the May 2025 annual ACLP Conference for student recruitment. Marketing materials will be included with the College of Graduate Studies career fairs and other graduate level recruitment outlets.

Student Support Services

Advising

The MS in Child Life Program Director will serve as the primary academic advisor for students entering the degree program. Students will be individually advised by the Program Director each fall and spring semester to ensure academic success. The College of Graduate Studies typically requires students in the master's programs to form an advisory committee with a minimum of

three members by the time 15 semester hours are earned. Since the MS in Child Life has a specific curriculum with no electives; and students are monitored each semester for progress, the MS in Child Life will not use the individual student advisory committee approach. Instead, this graduate degree will use an advisory council approach to oversee the curriculum. The graduate Program Director will serve as chair, and the advisor council will include, the Lecturer, one other graduate faculty teaching in the program, and one preceptor who will serve a three-year term. The MS in Child Life Program Director will serve as the academic advisor for all students in the program.

University Student Support Services

TN Tech University provides all students with multiple support services.

- Academic accommodations for students with disabilities are facilitated through the Accessible Education Center.
- Technical assistance is provided by the [myTech IT Helpdesk](#) or by calling 931-372-3675 and the Center for Innovation in Teaching and Learning including the CITL's [CITL's Learner Success Resource page](#).
- Tutoring is provided free to all TN Tech students for classes, writing, test prep, study skills, and resume development via appointments at the [Learning Center website](#).
- The Counseling Center assists students with personal/social concerns to achieve satisfying educational and life experiences via the [Counseling Center website](#).
- Health Services offers affordable, accessible health and wellness care via the [Health Services](#) website.

X. Instructional and Administrative Resources

Faculty Resources

Current faculty resources and the expected hire of one Lecturer will ensure a high-quality academic and experiential learning in the MS degree in Child Life.

Current Faculty

Dr. Cara Sisk, the current undergraduate child life program's Certified Child Life Specialist PhD faculty will fill the 12-month graduate program director position for the new MS degree in Child Life. In addition, two current School of Human Ecology faculty members, will teach one course each academic year. Dr. Elizabeth Ramsey will teach HEC 6525: Trauma Informed Care for Helping Professions, and Dr. Rufaro Chitiyo who currently teaches HEC 5025: Cultural Issues Influencing Health will teach this course in the MS degree in Child Life (Table 7).

Table 7. Graduate Program Faculty

Name	Rank	Highest Degree	Department	Position and Percentage Involvement	Grad School Status
Cara Sisk	Associate Professor	PhD, CCLS	Human Ecology	Director 100%	Full
Elizabeth Ramsey	Assistant Professor	PhD, CFLE	Human Ecology	Teaching 1 course	Full
Rufaro Chitiyo	Associate Professor	PhD	Human Ecology	Teaching 1 course	Full
New Position	Lecturer	MS, CCLS	Human Ecology	Teaching & Clinical Coordination 100%	Full

7.2

Anticipated New Faculty and Instructional Staff

The competitive nature of the Child Life profession requires clinical preparation beyond academic coursework to well prepare students. The addition of the 12-month Lecturer to teach courses, serve as the clinical coordinator for experiential learning opportunities, market the program and recruit students will be required for a successful graduate program. The Lecturer position is listed in the Financial Form (Appendix B).

Non-instructional Staff

No new non-instructional staff are required for this program. The MS degree in Child Life will receive administrative support from the School of Human Ecology’s current administrative associate.

XI. Resources

Equipment

Equipment is already in place to support the MS in Child Life for the existing faculty. The new hire of the Lecturer will require the purchase of a laptop computer, printer, and office furniture. Copier access already exists for all the school’s faculty including new hires. The cost of the laptop is listed in the Financial Form as a one-time expense, but the School of Human Ecology does have existing funds to cover this expense. The cost of the new office furniture (for an existing office space) will be covered by the School of Human Ecology using existing funds.

Information Technology

TN Tech’s Office of Information Technology Services (ITS) provides computer resources, technical services and support for instruction, research, and administration to all TN Tech faculty. Technological teaching and learning resources and support are provided by the Center for Innovation in Teaching and Learning (CITL) which provides workshops, trainings, and consultations to faculty focused on the provision of excellence in teaching including online teaching. Staff in the CITL work with faculty individually to provide course development assistance and support. iLearn, powered by Brightspace D2L, is the online learning management

system provided by the university for students and faculty. All courses in the MS degree in Child Life will be located and implemented in this learning platform. Our College of Agriculture and Human Ecology has one dedicated ITS Support Staff member to provide technical support to faculty related to computers and software.

Library Resources

TN Tech's Volpe Library provides a variety of resources to students and faculty including numerous online journal databases, Interlibrary Loan, RefWorks, and Research Poster Design all of which are available to support this MS degree in Child Life. Reference Faculty members are available to work individually with faculty to obtain resources not housed onsite for research and teaching support. A listing of online databases available to support this degree program are listed earlier in this document, in the LON, on pages 29-30.

Facilities

Existing faculty have dedicated, individual office spaces for work. There is available office space in the school's possession for the Lecturer to have a dedicated, individual office as well. Office furniture will need to be purchased, and as noted above, the School of Human Ecology has existing funds to cover this expense. While the school has ample classroom access on site, this being an online graduate program, there is no need for on-campus classroom facilities.

Other Resources

The School of Human Ecology Administrative Associate will provide administrative support in the form of student reports, ordering supplies, and maintaining financial records. University assistance is currently being provided from the College of Graduate Studies (consultation and guidance) and the Center for Innovation in Teaching and Learning (online course design).

NAPP Appendices

- Appendix A – Letters of Support
- Appendix B – Updated THEC Financial Projections Form
- Appendix C – Faculty CVs
- Appendix D – Course Syllabi
- Appendix E – Child Life Competencies

Appendix A
Letters of Support
(no new letters have been added since the submission of the LON)

7.2

VANDERBILT UNIVERSITY MEDICAL CENTER

9/15/2023

Cara Sisk, PhD, CCLS
Child Life Program Director
School of Human Ecology
Tennessee Technological University
Box 5035
Cookeville, TN 38505

7.2

Dear Dr. Sisk:

I am pleased to provide this letter of support for the proposed Master of Science degree in Child Life and Lifespan Psychosocial Care within the School of Human Ecology at Tennessee Tech University.

Providing this degree at TN Tech will increase the hiring pool of students who have preparation in graduate level child life specific education. The addition of lifespan psychosocial care to this graduate curriculum will prepare students for currently emerging opportunities to support adults in healthcare including parents of pediatric patients, those in maternal and fetal medicine, and adult patients themselves.

The Master's Degree in Child Life and Lifespan Psychosocial Care will build the knowledge and skills of child life students entering the workforce as well as professionals with the Certified Child Life Specialist credential who desire to earn a master's degree to enhance their clinical practice.

Please contact me if I can provide additional information.

Sincerely,

Janet Cross, M.Ed., CCLS, CPXP
Senior Director, Patient and Family Centered
Care Monroe Carell Jr. Children's Hospital at
Vanderbilt



Monroe Carell Jr.

Monroe Carell Jr. Children's Hospital at Vanderbilt Patient and Family Centered Care
2200 Children's Way I Suite 2117 I Nashville, TN 37232
tel 61-S.322.0358
www.ChildrensHospital.Vanderbilt.org

Department of Psychology and
Human Development

VANDERBILT



Peabody College

Jessika Boles, PhD, CCLS
Assistant Professor of the Practice
Department of Psychology and Human Development
Vanderbilt University
230 Appleton Place, Hobbs 108
Nashville, TN 37232

September 4, 2023

To Whom It May Concern:

I am happy to write this letter of support for the creation of a Master of Science in Child Life graduate program at Tennessee Tech University. As the Child Life Academic Coordinator of the only currently existing graduate program preparing Certified Child Life Specialists in the State of Tennessee, I believe this to be a much-needed resource that will increase accessibility for our field, while also creating more opportunities for collaboration across our respective institutions.

I have known Dr. Sisk for nearly fifteen years – she was my first mentor as a fledgling child life specialist at St. Jude Children’s Research Hospital in Memphis, Tennessee. Her ability to teach, create, and coordinate is well documented at Tennessee Technological University as well as in the annals of the history of the child life profession. I am certain her name alone will draw significant interest in this prospective program; for those who may not know her by name, once they see the rigor of the program, its alignment with ACLP and CLCC expectations, and experience the kindness of the TTU community, they will be sold on completing this next step in their academic journey in your program.

As the current leader of the ACLP’s prestigious research fellows, and as a former member and active participant and leader across committees in both the ACLP, the CLCC, and our regional child life organization, SEACLP, I can see how this program will only strengthen our regional and national professional infrastructure. Child life has become an incredibly competitive field, and although not currently required, most internship sites (our affiliated children’s hospital included), have moved to prioritizing master’s level candidates for clinical training placements. Organically, clinical programs have begun to recognize the depth of knowledge and strength of skills that graduate prepared candidates possess, and according to data I recently compiled, almost 70% of new entrants into the field are master’s prepared.

In the state of Tennessee, we are losing many promising candidates to online programs hosted in Texas, California, and Florida because of the lack of opportunities available here. Sadly, these online programs are admitting large numbers of students, but few of those students are successful in obtaining a clinical internship or their certification as a child life specialist. Other universities are making money on our students without delivering the outcomes promised. Our program at Vanderbilt is only equipped to admit 10 graduate child life students per year, yet there are easily twice as many clinical positions currently vacant in our state and neighboring states. We turn away about 60 applicants each year that we don’t have the means to support – which means the time is ripe for us to be able to point them to another option in our state. Not only does our state offer some affordable living costs compared to other major metro areas but is also rich with world-renowned healthcare centers that boast child life teams who are leading the profession both in what they do and how they contribute to the larger profession. Establishing a Master of Science program in Child Life is well-timed, desperately needed, and ideally suited at Tennessee Technological University, and we at Vanderbilt University are so happy to extend our support to Cara and her team. Please let me know if there is any more information that I can provide to be helpful.

Sincerely,

Jessika Boles, PhD, CCLS

VANDERBILT UNIVERSITY
PMB 552
230 Appleton Place
Nashville, Tennessee 37203

www.vanderbilt.edu
tel 615.322.8141
fax 615.343.9494

7.2



Office of Patient and Family Experience

Cara Sisk, PhD, CCLS
Child Life Program Director
School of Human Ecology
Tennessee Technological University
Box 5035
Cookeville, TN 38505

7.2

Dear Dr. Sisk:

I am happy to provide this letter of support for the proposed Master of Science degree in Child Life and Lifespan Psychosocial Care within the School of Human Ecology at Tennessee Tech University.

Providing this degree at TN Tech will increase the hiring pool of students who have preparation in graduate level child life specific education. The addition of lifespan psychosocial care to this graduate curriculum will prepare students for currently emerging opportunities to support adults in healthcare including parents of pediatric patients, those in maternal and fetal medicine, and adult patients themselves.

The Master's Degree in Child Life and Lifespan Psychosocial Care will build the knowledge and skills of child life students entering the workforce as well as professionals with the Certified Child Life Specialist credential who desire to earn a master's degree to enhance their clinical practice.

Please contact me if I can provide additional information.

Sincerely,

Megan DeBolt, CCLS
Child Life and Patient Experience Manger
East Tennessee Children's Hospital
mkdebolt@etch.com
865-541-8724

Children's Hospital
Koppell Plaza
2101 Owen Avenue
Cookeville, TN 38505
www.etch.com
p 865-541-8500
f 865-541-8040



Friday, September 8, 2023

To Whom It May Concern:

I am sharing my support for the development of a Master of Science Degree in Child Life at Tennessee Tech University. I have worked as a certified child life specialist for over 20 years. I received my graduate degree from The University of Alabama, specifically in child life. I found great value in the coursework that better prepared me for my initial work experiences. I have had extensive involvement with students through the years by serving as an internship supervisor, developing internship curriculum, implementing educational opportunities, and creating organized learning experiences. I devote a lot of time connecting with students that are looking for guidance in their professional journey, i.e., questions regarding coursework, internship planning, experience or programming support. I am involved in our regional child life group and value the connection and collaboration between clinical organizations and academics. I am an adjunct faculty teacher at The University of Memphis and see the value in providing child life specific education for students preparing for their role in the child life profession. I am currently the child life student coordinator at St. Jude Children's Research Hospital and supporting students clinically and academically is a large part of my role as a child life specialist and manager. I highly support the development of this academic program.

Sincerely,

Jennifer Smith Tagg, MS, CCLS, CIMI
Lead Child Life Specialist
Child Life Student Coordinator
St. Jude Children's Research Hospital
901-595-2788
jennifer.smith@stjude.org

7.2



7.2

To Whom It May Concern,

My name is Sara Ridenour, and I am writing with excitement to help encourage the growth of a new Master's Degree program at Tennessee Tech University. I have been able to see firsthand the need for more students to be advised and supported through Master's Degree programs in order to be successful in the field of child life. I am a part of the internship interview process at a large hospital, teach fully remote courses for a Master's Degree program, and am part of the Association of Child Life Professionals committee that talks specifically about internships. I strongly believe that we need to have more opportunities for students to learn and engage more through higher education in order to be set up for success as a child life specialist in our evolving field.

Currently, I am spearheading the child life internship interview process at St. Jude Children's Research Hospital, where we have consistently had over 200 applicants in the last two rounds of internship interviews. I have been able to create a rubric in order to determine applicants that are going to be successful in our specific child life internship program, in which most of the applicants that are having success are those that are currently enrolled in a Master's Degree program. I have noticed that students that are currently enrolled in Master's Degree programs have more experience, can speak to their child development knowledge, and are more aware of the different responsibilities that we look for in internship candidates for our field. With over 260 applicants in this last round of internship applications, there is a clear need for additional support and guidance for students wanting to enter the field of child life.

In addition to my involvement in the internship interview program, I am also an adjunct professor for Southeastern Louisiana University, where I have taught five courses over three years. All of the courses that I have been able to teach have been 100% remote, and I have seen a lot of success with students that are willing to go the extra mile and ask appropriate questions and try to get to know more about what it takes to have success in obtaining a child life internship. I have been able to see how important it is to set up students for success in our field by being able to connect, educate, and provide appropriate resources through remote Master's Degree classes. As an adjunct professor, I have been able to push the students that are pursuing a Master's Degree and have been able to help them understand the different skillsets and developmental assessments that are crucial for success in our field. I have been able to see the importance of providing additional education to those who want to enter the field, and for Certified Child Life Specialists who are wanting to further their education and have more knowledge to bring into our very specific field of work. I have thoroughly enjoyed having professionals who are already certified in my courses chime in during conversation to bring additional insight, depth, and conversation to topics pertaining to child life.

Finally, I am part of the IAOC (Internship Accreditation Oversight Committee) through the Association of Child Life Professionals. Even though the concept of having a Master's Degree is no longer going to be an expectation in our field, there is a high need to be supporting students in the classroom and help guide students in our profession to be set up for successful internship and job placements. I believe that having additional programs, especially remote programs, would be quite beneficial for the growth and success of our field as Certified Child Life Specialists.

If you have any questions or concerns about this support, I invite you to contact me through email or telephone with the contact information below.

Best,
Sara Ridenour
901-595-4318
Sara.ridenour@stjude.org



Human Environmental Sciences
Human Development & Family Studies

7.2

September 7, 2023

To Whom It May Concern:

My name is Dr. Sherwood Burns-Nader, and I am the coordinator of the graduate and undergraduate child life programs at the University of Alabama. In addition, I am a leader within the Association of Child Life Professionals (member of the Internship Readiness Working Group, Co-Chair of the Academic Excellence Task Force), as well as the Child Life Certification Commission (previous Chair of CLCC, chair-elect of Ethics Committee). These roles and leaderships have helped me to become very informed of the needs regarding the pathway to the child life profession, including academic training. I am excited to hear that Tennessee Tech University is pursuing transitioning to master's program, as I see such a transition as a potential benefit for our profession. For one, a look at the strategic plan of the Association of Child Life Professionals highlights emphasis on expanding the research of child life. Master's programs are the best supports for such an initiative as the foundations of research are offered at the graduate level (i.e., research methods and statistics requirements, thesis opportunities). Across the United States, there are less than 50 academic programs that offer a focus in child life and significantly less that do so at the master's level. Therefore, one of my perceived benefits of this transition is that it increases accessibility to graduate level training in child life while also increasing the available options for training in research. Such training can help further develop the field of child life. Furthermore, as a program that offers a graduate program in child life, I am aware of the benefits that such programs offer students. Graduate programs tend to include smaller course sizes and close engagement with professors. Such opportunities provide the mentorship and evidence based instruction that is needed at the academic level to prepare students for the clinical training of the internship. Finally, a large number of those interested in child life are those who find the profession later (later in their undergraduate program or as a second career). Master's programs provide access to the profession for individuals who find out about child life a little later and need high quality coursework and academic training beyond a previously earned bachelor's degree. In summary, I see many benefits of Tennessee Tech University shifting their child life program to the master's level. Thank you for considering my comments, and please feel free to contact me at sburns@ches.ua.edu.

Sincerely,

SBNader

Sherwood Burns-Nader, PhD, CCLS
Associate Professor

THE UNIVERSITY OF ALABAMA*



Cara Sisk, PhD, CCLS
Child Life Program Director
School of Human Ecology
Tennessee Technological University
Box 5035
Cookeville, TN 38505

Dear Dr. Sisk,

I am pleased to provide this letter of support for the proposed Master of Science degree in Child Life and Lifespan Psychosocial Care within the School of Human Ecology at Tennessee Tech University.

Providing this degree at TN Tech will increase the hiring pool of students who have preparation in graduate level child life specific education. The addition of lifespan psychosocial care to this graduate curriculum will prepare students for currently emerging opportunities to support adults in healthcare including parents of pediatric patients, those in maternal and fetal medicine, and adult patients themselves.

The Master's Degree in Child Life and Lifespan Psychosocial Care will build the knowledge and skills of child life students entering the workforce, as well as professionals with the Certified Child Life Specialist credential who desire to earn a master's degree to enhance their clinical practice.

Please contact me if I can provide additional information.

Sincerely,

Elizabeth M. McCarroll, PhD, CCLS

Elizabeth M. McCarroll, PhD, CCLS
Professor, Child Life Program Coordinator
Texas Woman's University
emccarroll@twu.edu

Human Development, Family Studies, and Counseling

P.O. Box 425769 | Denton, TX 76204-5769 | twu.edu

7.2

September 13, 2023

To Whom It May Concern,

I am writing to you in support of The School of Human Ecology at Tennessee Tech University offering an online Master's Degree in Child Life and Lifespan Psychosocial Care.

As a former child life undergraduate student at Tennessee Tech University, I graduated with a Bachelor of Science in Child Life in 2018. I am honored to have obtained my educational background under Dr. Cara Sisk, the Child Life Program Director and Assistant Professor for Tennessee Tech's Child Life Program Department. Her incredible hard work and passion for her students does not go unnoticed. Her diligence behind the educational child life related courses taught me as a child life student which led me to a successful career as a Certified Child Life Specialist now. As her student at the time, I admired her desire to grow with her own personal education advancement so that she could further advance the child life program. Her achievements inspired me to want to personally gain more similar child life experiences. After I graduated, through her connections with another child life director, I was contracted with Siriraj Hospital in Bangkok to mentor and work with the Thai child life specialists. That experience allowed me to obtain my career here at Monroe Carell Jr. Children's Hospital Vanderbilt at Williamson in Franklin, TN. With utmost thanks to her as a professor, I am proud to have been her student.

As of currently there is no state university that provides an online Master's Degree in Child Life in the state of Tennessee. I find this a necessary and significant need for child life specialists who seek professional growth and educational advancement. By offering an online Master's program in Child Life here in Tennessee, not only does this allow the benefit of having one close to those who reside in the state but opens windows of opportunity for clinical advancement for neighboring states as well. Most children's hospitals require a master's degree for all child life professionals interested in furthering their clinical and professional advancement. For example, transitioning from a Certified Child Life Specialist II to a Certified Child Life Specialist III. This benefits the individual to gain clinical advancement and potential monetary promotion to one's career, especially when it comes to an opportunity for leadership and administration for their child life department at the hospital. The impact of having an online child life graduate program available at Tennessee Tech University sets the precedence even higher with educational opportunities for students and professionals. It also gives me personal excitement to potentially share with my future intern students giving them more opportunity for career goals and advancement.

Respectfully,

Nancy Caldwell Davis, CCLS

Certified Child Life Specialist

Monroe Carell Jr. Children's Hospital Vanderbilt at Williamson Medical Center

4321 Carothers Pkwy

Franklin, TN 37067

ncaldwell@wmed.org

423-240-3419

Dear Higher Education Commission Review,

As a former child life undergraduate student at TN Tech, I believe that a master's program would be beneficial not only to students but to the university as a whole. From my research, I have gathered that there are no current child life graduate programs offered in Tennessee. Developing a child life Master's Program would attract a diverse pool of students in and out of the state of Tennessee. As a current Certified Child Life Specialist I do not have a Master's Degree, but have considered pursuing a Master's Degree due to my interest in continuing education. I believe a Master's program in Child Life is significant for individuals aspiring to become Certified Child Life Specialists. I think the Lifespan psychosocial aspect of this degree could make students more competitive when entering the career field, especially child life. Professionally, I would be interested in a Master's program in Child Life and Lifespan Psychosocial Care if it was offered at Tennessee Tech University.

A graduate program in Child Life provides an opportunity to better equip students to support families by utilizing developmentally appropriate interventions that foster coping, self-expression, and professional communication. A child life graduate program could provide advanced theoretical and practical knowledge of child development, healthcare systems, and family-centered care. I think a Master's Program in Child life makes students stand out for their professionalism and specialized knowledge in their field. A child life Master's program could allow students the chance to gain more hands-on clinical experience and acquire skills to plan, implement, and evaluate interventions that promote children's psychosocial well-being in hospital settings and beyond. Obtaining a master's degree in child life has the potential to help students advance their skills and knowledge when working with children in healthcare.

Additionally, a graduate degree in Child Life and Lifespan Psychosocial Care enables you to take on more diverse and complex roles in clinical, educational, and research settings, and it opens opportunities for leadership and advocacy within the child life community. I think this master's program has the potential to impact students and Tennessee Tech University in some incredible ways.

Thank you,
Abigail Hurst

Appendix B
Updated THEC Financial Projections Form

7.2



Financial Projections Form

Institution	Tennessee Tech University
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Program Name	MS in Child Life
---------------------	------------------

Projected One-Time Expenditures

Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff	2000**					
Consultants	\$4,000	\$1,500				
Equipment (laptop, printer)		\$2,500				
Information Technology						
Library resources						
Marketing		\$1,000				
Total One-Time Expenditures	\$4,000	\$5,000	\$0	\$0	\$0	\$0

Projected Recurring Expenditures

Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Faculty & Instructional Staff						
Lecturer (new) salary			\$65,000	\$67,600	\$70,304	\$73,116
Non-Instructional Staff						
Graduate Assistants			\$25,000	\$26,000	\$26,040	\$26,041
Accreditation		\$1,750	\$250	\$250	\$250	\$250
Travel						
Other: benefits for salary (44%)			\$28,600	\$29,744	\$30,933	\$32,193
Total Recurring Expenditures	\$0	\$1,750	\$118,850	\$123,594	\$127,527	\$131,600
Grand Total (One-Time and Recurring)	\$4,000	\$6,750	\$118,850	\$123,594	\$127,527	\$131,600

Projected Revenue

Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Tuition & Fees		\$72,060	\$112,442	\$155,860	\$208,646	\$242,110
Grants		\$0	\$0	\$0	\$0	\$0
Other		\$0	\$0	\$0	\$0	\$0
Total Revenues	\$0	\$72,060	\$112,442	\$152,962	\$172,546	\$242,110

**Years 6 and 7 should only be included for doctoral programs*

**\$2000 already paid for

7.2

Appendix C
Faculty CVs

7.2

Cara C. Sisk, PhD, CCLS
School of Human Ecology
715 Quadrangle/Campus Box 5035
Cookeville, TN 38505
(931) 372-6017
csisk@tnitech.edu

Education

Tennessee Technological University December 2016
Ph.D. Exceptional Learning, Young Children and Families
Dissertation: Children with Special Healthcare Needs and
Disabilities Perceptions of Healthcare Experiences

University of Missouri December 1994
M.A. Human Development and Family Studies, Child Life

Harding University May 1992
B.A. Cum Laude, Elementary Education

Academic Positions

- Tennessee Technological University – Cookeville, TN 2011-present
 - Graduate School Faculty 2020-present
 - Assistant Professor, School of Human Ecology 2018-present
 - Instructor, School of Human Ecology 2011-2018
 - Tenured June 2017

Professional Experience

St. Jude Children’s Research Hospital – Memphis, TN 2008-2011
Child Life Specialist II, Child Life Program

St. Jude Children’s Research Hospital – Memphis, TN 2006-2008
PRN Child Life Specialist, Child Life Program

St. Jude Children’s Research Hospital – Memphis, TN 1995-2001
Child Life Specialist, Child Life Program

Professional Certifications

Child Life Professional Certification 1996-present
K-8 Early Grade Spec., Tennessee Department of Education 1998- 2003
Elementary K-6, Arkansas Department of Education 1992- 2008

Select Awards and Honors

TN Tech University 10-Year Service Award August 2021
School of Human Ecology Faculty Research Award May 2019
Association of Child Life Professionals Student Research Award May 2018

School of Human Ecology Faculty Research Award May 2018
 Outstanding Contribution in Reviewing Journal of Pediatric Nursing November
 2017

Select Professional Leadership Service

National

Child Life Academic Society President		2024-present
Child Life Academic Society Co-chair		2023-2024
Child Life Academic Society Founders Council		2021-present
• Inaugural Summit Planning Committee		August-October 2022
Association of Child Life Professionals	Research Fellow	2020-present
Association of Child Life Professionals	Director, Board of Directors	June 2018 –
May 2020		
American Association of Family and Consumer Sciences Leadership Council		June 2015 –
May 2017		

Select Peer Reviewed Publications

Sisk, C. & Howard, M. (in press). Unique realities of children with special healthcare needs and disabilities in healthcare. *Pediatric Nursing*.

Wittenberg Camp, B., Cantrell, K., & Sisk, C. (2023). Child life internship readiness: Perspectives of child life academics. *Journal of Child Life: Psychosocial Theory and Practice*, 4(2).
<https://doi.org/10.55591/001c.87911>

Sisk, C. Cantrell, K., Wittenberg Camp, B. (2023). Child life internship readiness: Perspectives of clinical training coordinators and supervisors. *Journal of Child Life: Psychosocial Theory and Practice*, 4(1). <https://doi.org/10.55591/001c.74170>

Piras, S., Duvall, J., Hutson, S., Phillips, M., & Sisk, C. (2022). Building a bridge across healthcare professionals: Interprofessional education at a university with limited health science majors. *Journal of Behavior and Social Sciences*, 8, 302–311.

Sisk, C., Chitiyo, G., & Akenson, A. (2018). Predictors of social relationships for children with special health care needs. *Journal of Pediatric Nursing*. doi: 10.1016/j.pedn.2018.03.009

Sisk, C. & Howard, M. (2017). Amplifying voices of children with disabilities: Perceptions of health care experiences. *Journal of the International Association of Special Education*. 17(1), 49–60.

Select Presentations

International

Sisk, C. (2014). *Children with disabilities: Perceptions of health care experiences*. 20th Annual Qualitative Health Research Conference, Delta Victoria Ocean Pointe Hotel, Victoria, British Columbia, Canada.

National

Daniels, S., Sisk, C., Burns-Nader, S., & Cantrell, K. (2023). *Write here, write now! A full day writing retreat to transform your ideas into publication*. Association of Child Life Professional Conference, Gaylord Texan Resort and Convention Center, Grapevine, TX.

7.2

Sisk, C., & Chitiyo, R. (2022). *Reflections on course re-design and implementation to incorporate AAFCS body of knowledge*, 113th Annual American Association of Family and Consumer Sciences Conference, Orlando, FL.

Kohler, D., & Sisk, C. (2020). *Promoting social inclusion for children in healthcare: Implications for child life practice*. Association of Child Life Professionals Webinar.

Piras, S., Duvall, J., Hutson, S., Phillips, M., & Sisk, C. (2020). *Building a bridge across healthcare professions: Inter-professional education at a university with limited health science majors*. Ethnographic and Qualitative Research Conference, Flamingo Hotel, Las Vegas, NV.

Sisk, C., & Cameron, C. (2019). *Identifying and applying pedagogical best practices*. Academic Track. 37th Annual Association of Child Life Professionals Conference, Chicago, IL.

Sisk, C. (2018). *Assessing children with special health care needs perceptions of healthcare experiences*. Association of Child Life Professionals 36th Annual Conference, Washington, DC.

Sisk, C., Boles, J., & Cantrell, K. (2017). *Reading research: Discovering research literacy and developing research capacity*. Child Life Council 35th Annual Conference, Las Vegas, NV.

Sisk, C., Piras, S., Hutson, S., & Maffett, J. (2017). *Interdisciplinary educational approaches for preparing healthcare teams of the future*. Child Life Council 35th Annual Conference, Las Vegas, NV.

Sisk, C., & Marcum, R. (2015). *A natural fit: Incorporating qualitative research into child life practice*. Child Life Council 33rd Annual Conference, Cincinnati, OH.

Funded Grant Involvement

Principal Investigator. Sisk, C., & Chitiyo, R. (2018-2020). *Inter-concentration Inquiry: Connecting Human Ecology Students*. EDGE Quality Enhancement Plan \$7850, Tennessee Technological University.

Comprehensive Community Response Team Advisor/Support Member. Hellman, A., Hurley, S., Smith, P., Murdock, J., Ray, L.A., Swafford, M., & Lalani, D (2018). Project AWAKEN; Sexual Assault and Prevention grant. Funded by Department of Justice. (\$300,000).

Principal Investigator. Sisk, C., Swafford, M., Branson, J. (2017-2018), *Train the trainer: Addressing issues of food insecurity in food deserts through container gardening*. \$10,000, Tennessee Technological University Faculty Research Grant.

Co-Principal Investigator. Jolley-Shiple, L. (PI), & Sisk, C. (2011-2013). *TN Child Care Resource & Referral Grant*. \$224,490, Child Care Development Fund Block Grant (November 2011-February 2013). Tennessee Technological University.

Courses Developed & Taught

Graduate:

HEC 6630: Strategies and Advocacy for Families – Online Course

Undergraduate:

AGHE 3275-500: Research in Ag and Human Ecology – Online Course
 HEC 1005: Introduction to Human Ecology
 HEC 1010: Life Span Development
 HEC 1010: Life Span Development – Hybrid Course
 HEC 1010-541: Life Span Development – Online Course

HEC 2250: Child Life Theory and Practice
HEC 2250-500: Child Life Theory & Practice – Online Course
HEC 2510: Creative Play
HEC 2550: Children in Health Care
HEC 2550-801: Children in Health Care – Honors Section
HEC 3025-500: Professionalism in the Workplace – Online Course
HEC 3201: Community Nutrition
HEC 3550: Child Life Assessment of Children and Families
HEC 3560: Child Life Intervention Strategies
HEC 3565: Loss and Bereavement/End of Life Applications for Children and Families
HEC 3570: Child Life Practicum
HEC 3590: Child Life Clinical Preparation
HEC 3591: Introduction to Child Life Clinical Experience
HEC 4550: Professional Aspects of Child Life
HEC 4550: Research Methods and Professional Aspects of Child Life
HEC 4590: Clinical Child Life Experience
HEC 4900: End of Life Applications
HEC 4960: Foundations of Child Life – Online Independent Study Course

RUFARO AUDREY CHITIYO, Ph. D.

Physical Address:

598 Windrove Drive
Cookeville, TN 38506

Telephone and Email:

931-252-4380
rachitiyo@yahoo.com

EDUCATION

Doctor of Philosophy: Exceptional Learning in Young Children and Families (May 2014):
Tennessee Technological University, Cookeville, TN.

Dissertation Title: Predictors of child neglect: Mothers’ parentification, stress, marital status,
education, and financial situation

Master of Arts: Educational Psychology and Counselor Education in Agency Counseling (May 2009): Tennessee
Technological University, Cookeville, TN.

Bachelor of Arts: Linguistics and Shona (June 2003): University of Zimbabwe, Harare, Zimbabwe.

HIGHLIGHTS

Associate Professor for Human Development on Family Science

- Collaborated with 3 colleagues from Engineering, History, and Sociology to develop and teach SOC/HIST 6100 for the NSF grant.
- Participated in cultural immersion trips for SOC/HIST 6100 in 2023.

PROFESSIONAL EXPERIENCE

Associate Professor

- Assigned duties include teaching, research, service, and advising

CLASSES TAUGHT (TENNESSEE TECHNOLOGICAL UNIVERSITY)

- SOC/HIST 6100 Interdisciplinary Cultural Training—Fall 2023 to present (**online**)
- HEC 5025: Cultural Competence for Health Professionals—Fall 2022 to present (**online**)
- HEC 6225: Advanced Counseling Techniques—Spring 2022 to present (**online**)
- CUED 6305: Quantitative Problem in Curriculum —Summer 2021 to present (**online**)
- HEC 3275: Research in Family Sciences—Spring 2021 to present
- HEC 4055: Developing Professional Resilience—Summer 2020 to present
- HEC 4065: Social Policy for Children and Families—Spring 2020 to present (both **face-to-face** and **online**)
- HEC 4610: Family Stress Management (formally Normative and Catastrophic Issues in Families)—Fall 2019 to present (both **face-to-face** and **online**)
- HEC 3100: Cultural competence—Summer 2018 to present (both **face-to-face** and **online**)
- HEC 3066: Family violence across the lifespan—Spring 2015 to present (both **hybrid** and **online**)

Guest Speaker

Honors 4013: Sociocultural Aspects of Fashion & Dress: “Cultural humility and cultural competence” on February 22, 2023

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- American Association of Family and Consumer Sciences (AAFCS)
 - Tennessee Association of Family and Consumer Sciences (TAFCS)
- Family Science Association (FSA)

- National Council on Family Relations (NCFR)
 - Southeastern Council on Family Relations (SCFR)
- Tennessee Commission on Children and Youth (TCCY)
 - Upper Cumberland Commission on Children and Youth (UCCCY)
- Women in Higher Education Tennessee (WHET)

PRESENTATIONS

-
- Chitiyo, R.** (January 10, 2024). Cultural Adjustment at TN Tech’s Spring 2024 International Students Orientation in Cookeville, TN
 - Chitiyo, R.** (August 16, 2023) Cultural Competence at TN Tech’s Fall 2023 International Students’ Orientation
 - Chitiyo, R.** (April 17, 2023.) Reflections on developing, teaching, and evaluating a professional resilience course at the Resilience Conference in Nashville TN
 - Chitiyo, R.** (April 16, 2023) Opening reflection **speaker**
 - Chitiyo, R.** (March 27, 2023). TN Tech for Women’s History month **panelist** on Telling our stories: The intersectionality of women
 - Chitiyo, R.** (January 11, 2023). Cultural Competence at TN Tech’s Spring 2023 International Students Orientation in Cookeville, TN

Trainings Offered

- Chitiyo, R.** (March 10, 2023). Setting boundaries in the workplace for the Department of Children’s Services in Cookeville, TN (virtual)

PUBLICATIONS

Published Edited Books

- Nyemba, F., & **Chitiyo, R.** (Eds.). (2023). *Closing the educational achievement gap for students with Learning Disabilities*. IGI Global. doi: 10.4018/978-1-6684-8737-2

Curated Published Books

- Chitiyo, R.** (2023). (Ed.). *Middle childhood/adolescent development*. McGraw-Hill.

Published Book Chapters

- Chitiyo, R. A., Swafford, M., & Ramsey, E.** (2023). Embracing and respecting diversity. (Chapter 2). In M. Swafford, & E. Ramsey (Eds.). *Family and Consumer Sciences: Preventative and Restorative Education*. Cognella.
- Ramsey, E., Swafford, M., & **Chitiyo, R. A.** (2023). Adverse childhood experiences and trauma-informed classroom approach. (Chapter 3). In M. Swafford, & E. Ramsey (Eds.). *Family and Consumer Sciences: Preventative and Restorative Education*. Cognella.
- Nyemba, F., & **Chitiyo, R. A.** (2023). Maintaining a safety net and peace for former child soldiers in Africa: Evaluation of Peace Education programs. (**Republished as Chapter 68**) In *Research Anthology on Modern Violence and Its Impact on Society*. doi: 10.4018/978-1-6684-7464-8.ch068

Manuscripts Submitted for Publication

- Terneus, S. & **Chitiyo, R.** (Under Review). Body image perceptions of college students: Using silhouettes as selection of attractiveness. *The Journal of American College Health*.

GRANTS

-
- Chitiyo, R.** (senior personnel) NRT-FW-HTF: Engendering the Spirit of Gadugi at the food-energy-water nexus (NSF) \$ 3 000 000 running from 7/2022 to 2/2027 (**Funded** June 2022, Award Number: 2152218). PI: Pedro Arce. Co-PIs: Haynes, A, Mahajan, S., Sanders, J., & Schaeffer, J. Other faculty: Harding, L, & Smith, T. External Evaluators: Arce-Trigatti, A, & Bowman, N.

PROFESSIONAL DEVELOPMENT

Academic/Professional Awards

- Recipient of the Hal Ramer professional development scholarship for 2024 from WHET (November 3, 2023)

Professional Trainings

Take note: Strategies to develop student note-taking skills by Maryellen Weimer for Magna Publications (January 4, 2024)

Practical solutions for faculty: Higher-order learning by Lolita Paff for Magna Publications (December 15, 2023)

Healthy Outcomes from Positive Experiences (HOPE) by Rachel Henson for Upper Cumberland Commission on Children and Youth (December 1, 2023)

SAC Statewide Training Conference (May 23-25, 2023)

Tennessee Technological University Faculty Development Courses

- Search committee training by Dawn Thompsen for TN Tech HR (September 21, 2023)

Workshops Attended

Mind full to mindful: Strategies to enhance teaching and learning by Seena and Stuart Haines for Magna Publications (December 8, 2023)

CITL Semester Wrap-Up: HTML Templates and Creator+ (November 28, 2023)

TN Tech Divisive Concepts (October 25, 2023)

WHET conference attendee (October 27, 2023)

T&P Committee Chair by TN Tech CITL (September 18, 2023)

Design your digital classroom Summit hosted by Teaching from The Couch (April 3–7, 2023)

Distress protocol by the TN Tech Center for Advanced Faculty Excellence & Counseling Center (February 16, 2023)

Empowered Educator (February 14, 2023)

PROFESSIONAL SERVICE

UNIVERSITY SERVICE

SACSCOC subcommittee member (effective fall 2023)

Tech After Dark (November 2, 2023)

Served on Cara Sisk's promotion committee (Fall 2023)

QEP Selection Committee Member (effective Fall 2023)

SOA Director search committee member (Fall 2023 and Spring 2024)

TN Tech Spring showcase (March 4, 2023)

TN Tech Spring showcase (February 25, 2023)

Judge at Tennessee Technological University's Research and Creative Inquiry Day (April 2023)

INTERNATIONAL SERVICE

Scholarship reviewer for Life Paths (December 2023)

Resilience Conference breakout session **host/moderator** (April 2023)

COMMUNITY SERVICE

Board Member at Large: Upper Cumberland Commission on Children and Youth (effective July 2019).

Books for Zimbabwean Schools: Co-founder of an ongoing project, in which we source for gently used books from used book outlets and publishers for shipment to elementary and secondary schools in Zimbabwe for use by both teachers and students (Ongoing).

Research Associate for Blossom Center for Childhood Excellence (Oak Ridge, TN)

CURRICULUM VITAE 2024

Elizabeth Ramsey, PhD, CFLE

eramsey@tntech.edu

Tennessee Technological University

715 Quadrangle, Box 5035

Cookeville, TN 38505

Education:

May 2018 Tennessee Technological University, Exceptional Learning, Ph.D.,
Concentration Young Children and Families

Dissertation:

Ramsey, E. A. (2018). *The status of Tennessee foster parent training and support including fostering children with neonatal abstinence syndrome (NAS), and the relationships of foster parents' perceived abilities and motivations with the likelihood to continue fostering* (Doctoral dissertation).

May, 2017 Tennessee Technological University, M.A. in Curriculum and
Instruction, Concentration: Curriculum

May, 2014 Tennessee Technological University, M.A. in Curriculum and
Instruction, Concentration: Elementary Education

December, 1996 Tennessee Technological University, B.S. in Human Ecology,
Concentration: Child Development and Family Studies

Endorsements and Certifications:

January 2023 Certified Mental Health First Aid Trainer

December 2022 Master Trainer of Tennessee Building Strong Brains Initiative:
Adverse Childhood Experiences

March 2021 Ed TPA National Scorer

May 2019 License Family and Consumer Science Education 6-12,
Endorsement 154, State of Tennessee, number 000599148

November, 2018 Tennessee Building Strong Brains Trauma Informed Care Trainer

December, 2017 Domestic Violence Designation to Rule 31 Family Mediation

October, 2017 Rule 31 Family Mediator, Tennessee

September, 2017 Approved Divorce Educator for the 13th judicial District
in Tennessee

August, 2017 Certified Family Life Educator (CFLE), Full Certification
Certification number: 1183758

January 25, 2017 Adverse Childhood Experiences Trainer

Fall, 2016 Level B Early Child Development Assessor

May, 2014 License K-6, Endorsement 699, State of Tennessee,
number 000599148

FACULTY/ACADEMIC APPOINTMENTS:

August 2019 Tennessee Technological University – Cookeville, TN

E. Ramsey, C.V.

1

Assistant Professor, Human Ecology, Family and Consumer Sciences and Human Development and Family Science

EXPERIENCE:

- January 2023- Present Expert Witness, 13th Judicial District System: Child Advocate
- November 2017- January 2018 Developmental Specialist, TTU
- October 2017- December 2018 Rule 31 Family Mediator, specially trained in Domestic Violence
- October 2017- December 2018 Divorce Educator, 13th Judicial District
- Spring 2009- December 2017 Newborn Educator, Infinity Birthing Center
- June 2005- 2020 Assist and Advocate for women, children, and families. Church on the Hill
- Fall 2009- Fall 2012 Director of Children’s Ministry and Director of Outreach, Church on the Hill

PUBLICATIONS:

Ramsey, E. (Ed.). (Under Contract, January 2024). *Wisdom for parents: Key ideas from parent educators*. DeSitter Publications.

Ramsey, E. & Julian, R. (Winter 2024). Market your CFLE practice & build your brand. *National Council on Family Relations CFLE: Network* 37(1), p. 6–7.

Bower, E., **Ramsey, E.**, & Seiler, S. (2023). Alcohol and cannabis use among rural university students: A quantitative analysis of barriers to care, student resilience, and school climate. *Journal of American College Health*. doi: 10.1080/07448481.2023.2272198

Ramsey, E. (2023). Equipping future certified family life educators in trauma informed care. *NCFR CFLE Network* 36(2), p. 4–5

Swafford, M. & **Ramsey, E.** (2023). Family and consumer sciences: Preventative and restorative education (1st Ed.). Cognella. <https://cognella.com/>

Ramsey, E. (2022). Advocating for social health education: We need it now more than ever. *Journal of Family and Consumer Sciences*. 114(3), 45–51. DOI: <http://dx.doi.org/10.14307/JFCS114.3.45>

Ramsey, E. (2022). Education and training of foster parents with infants with neonatal abstinence syndrome (NAS). *National Council on Family Relations: Network*.35(3), 8–9. <https://www.ncfr.org/cfle-network>

Chitiyo, R., Nyemba, F., **Ramsey, E. A.** (2022). Nonviolent discipline practices within classrooms: Best practices from a trauma-informed perspective. In Information Resources Management, Eds. Research anthology on interventions in student behavior and misconduct. DOI: 10.4018/978-1-6684-6315-4.ch004

Chitiyo, R. A. & **Ramsey, E.** (2021). Resilience and growth in the face of household dysfunction. *The Behavior Therapist*, 44(8), P. 417–421. <https://www.abct.org/>

Ramsey, E. & Chitiyo, R. (2021). Silenced Voices: Hispanic/Latino Immigrant Women’s Social Stressors. In N. D. Nyemba & Chitiyo (Eds.). *Immigrant Women’s Voices*

and Integrating Feminism into Migration Theory. <https://www.igi-global.com/gateway/chapter/266901>

Chitiyo, R. A., Nyemba, F., & Ramsey, E. (2021). Nonviolent Discipline Practices within Classrooms: Best Practices from a Trauma-Informed Perspective: In N. D. Erbe & S. Singh (Eds.), *Preventing and reducing violence in schools and society*.
Ramsey, E. A. (2019). Implementing social health in a trauma-informed classroom. *National Council on Family Relations: Network*. 32(3). 17-18. <https://www.ncfr.org/cfle-network>

GRANTS:

Seiler, S. (PI), **Ramsey, E. (Co-PI)**, Bowhay, C. (Co-PI). Tennessee Opioid Abatement Council. Prevention of Controlled Substance Diversion in Veterinary Medicine. **\$300,000** (Submitted January 18, 2024).
 Seiler, S. (PI) & **Ramsey, E. (Co-PI)**. Strategic Prevention Framework-Partnerships for Success for Communities, Local Governments, Universities, Colleges, and Tribes/Tribal Organizations (SPF-PFS-Communities/Tribes). NOFO SP-23-004. Department of Health and Human Services Substance Abuse and Mental Health Services Administration (SAMSHA) Center for Addiction Prevention, Research, and Support, award number 1H79SP083674-01. **\$1,849,207 funded September 18, 2023**.
 Bower, E., Grimes, R., **Ramsey, E.**, Seiler, S. (RR22-02). Tennessee Tech University Rural Reimagined. *Uniting, Empowering, and Engaging our Upper Cumberland Community to Reduce Mental Health Issues and Substance Misuse*. **\$21,598 (Funded, December 16, 2022)**.
 Upole, H., Hutson, S., Barlow, A., **Ramsey, E.**, Chitiyo, R. (Co-Investigators). (2021-2022). American Heart Association Healthy for Life Grant. *The Super Easy Guide to Healthy Eating*. **\$2,500 (Funded September 28, 2021)**.

PRESENTATIONS:

- **Ramsey, E.** Bowers, E., Seiler, S., Grimes, R. Empowering the Community to Reduce Mental Health Issues and Substance Misuse: Metal Health First Aid & Adverse Childhood Experiences Training. National Council on Family Relations (NCFR) Annual Conference. Orlando, FL. November 9, 2023.
- Julian, R. & **Ramsey, E.** Marketing Your CFLE Practice and Building your Brand. CFLE Summit Virtual Conference, June 23, 2023.
- **Ramsey, E.**, Bower, E., Seiler, S. Alcohol and marijuana use among rural students. TNAFCS Summer Miniseries, Virtual Format. June 14, 2023.
- **Ramsey, E.** Why Value Social Health Education in Middle School? CTE Institute for Educators, July 21, 2022, Chattanooga, TN.
- **Ramsey, E.** Trauma Informed Care for Vanderbilt Medical Center: Department of Patient & Family Center Care. Vanderbilt Medical Center, June 14, 2022
- **Ramsey, E.** and Chitiyo, R. Household Dysfunction: Protective Factors for Building Resiliency, Poster Presentation. ResilienceCon, April 3, 2022.
- **Ramsey, E.** Shifting Your Lens to a Trauma Informed Care Approach. Tennessee Association of Family and Consumer Sciences. Virtual Format. July 23, 2021.

Appendix D
Course Syllabi

7.2

Tennessee Tech University
School of Human Ecology
HEC 5500: Foundations of Child Life
Online, 3 Credit Hours, Fall Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Texts and References

Required

Thompson, R.H. (Ed.). (2018). *The handbook of child life: A guide for pediatric psychosocial care* (2nd edition). Springfield, IL: Charles C. Thomas.

Rollins, J.A, Bolig, R., & Mahan, C.C. (2018). *Meeting children's psychosocial needs across the health-care continuum* (2nd ed.). Austin, TX: Pro-ed, Inc.

Course Welcome and Description

Welcome to HEC 5500: Foundations of Child Life Lec. 3. Credit 3.

An introduction to the child life profession and foundations including scope of practice, impact of illness, family-centered care, therapeutic play, preparation, and the Official Documents of the Association of Child Life Professionals and the Child Life Certification Commission. This course is taught by a Certified Child Life Specialist and meets the content requirements to meet Child Life Certification Commission Academic Eligibility Requirements.

This course meets Association of Child Life Professional Competencies I.B. a, b, c

Course Objectives/Student Learning Outcomes

At the completion of this course the student will be able to:

1. Examine the Certified Child Life Specialist's scope of practice and unique role as a professional member of the multidisciplinary team. (I.B.b.)
2. Appraise the value of therapeutic play and the benefits to children's well-being.
3. Analyze the impact of healthcare experiences and illness on children and common reactions. (I.B.c.)
4. Evaluate the purpose of preparation and theories for its use with children in healthcare.
5. Apply Family-Centered Care principles incorporating family strengths, capacity building, and empowerment. (I.B.a.)

6. Differentiate the functions of the Association of Child Life Professionals (ACLP) and the Child Life Certification Commission (CLCC) recognizing the importance of the Official Documents of the Association of Child Life Professionals and the process for becoming a Certified Child Life Specialist; and
7. Build interdisciplinary knowledge while integrating professionalism in practice (SLO3).

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Child Life Specialist Scope of Practice

Therapeutic play, Impact of healthcare experiences

Family-centered care principles and theories

Functions of the professional organizations for Child Life

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Self-Assessment of Communication Skills (I.B.c.)

75 points

Assignment 2 -Literature Review of family-centered care principles and theories

75 points

Assignment 3 -Written research paper based on Literature Review (I.B.a.)

150 points

Assignment 4 -Synthesize functions of the professional organizations related to Child Life

50 points

Assignment 5 -Articulate/Synthesize the essential elements of the therapeutic relationship/scope of practice of the Child Life Specialist (I.B.b.) and (SLO3)

100 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
10 points each, can drop one: 70 points

Possible Points: 720

Grading Scale

letter grade	grade range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99 and below

7.2

Course Policies

Student Academic Misconduct Policy

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy 217 describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. Effective July 20, 2023, the university’s student academic misconduct policy has been revised and is published at [Policy Central](#). Students are expected to review and read this policy as part of their orientation to the syllabus and the course expectations.

AI Policy Statement: Not permitted in this course

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Attendance Policy

As this is an online class, formal attendance is not measured. However, attendance is informally measured when a student submits an assignment before or by the due date, or when students post an original response to a discussion question or respond to classmates’ posts. Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Participation in class will be measured with discussion posts. Discussion post guidelines are on iLearn. Students are also expected to participate through accessing and viewing Module checklists, and through submitting assignments on time.

Participation also includes reading instructor emails and contacting the instructor via email, in-person meetings, or Teams when a question arises.

Assignments and Related Policy

There is NO MAKE-UP of exams, quizzes, or assignments. However, if you miss an assignment because of a true illness or emergency, you may be allowed to make up the exam IF you have notified the instructor of your absence before the class period and provided sufficient documentation to the Student Affairs Office.

For an absence to be excused, the appropriate documentation must be provided to the Student Affairs office (doctor's note, etc.). This office will then notify the instructor by e-mail that the absence is confirmed.

Students will be expected to complete assignments and exams on the due date. Students are expected to be competent in iLearn, and to have reliable computer/internet access. Excuses for computers that do not work, or interrupted Internet access, etc., will not be accepted.

Homework assignments and exams are due on the assigned date. It is the student's responsibility to check the course calendar for due dates, and to submit assignments on time. The instructor is not responsible for problems the student may have with submitting assignments on iLearn. Assignments submitted after the due date/time will receive a deduction of 50% of the point total for each day the assignment is late (i.e., 50% on day 1, which is the day it is due in class or on iLearn, 75% on day 2, 100% on day 3).

The instructor will not accept any assignment that is submitted more than a week past the due date for any reason. If an assignment is due at class time, it should be submitted at the beginning of class. Otherwise, it is considered late (50% point deduction). If an assignment is due on iLearn at 11:59 p.m., it is considered late if submitted at 12:00 a.m. (25% point deduction).

All assignments should be formatted according to AMA guidelines, including a title page, page numbers, in-text citations, reference list, etc. Please use the AMA guidance documents located on iLearn for additional information.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central.](#)

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance. If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. tutoring is available for any class or subject as well as writing, test prep, study skills, resumes. Appointments are scheduled. Please see the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

ACLP Child Life Competencies, 2019

HEC 5500 Foundations of Child Life	
Competency	Assignment
I.B.a. Articulate the tenets of patient and family-centered care.	Research Paper
I.B.b. Describe the essential elements of the therapeutic relationship. SLO3	Scope of Practice Reading and Reflection
I.B.c. Identify effective communication skills to support a child and family.	Self-Assessment of Communication Skills

7.2

Tennessee Tech University
School of Human Ecology
HEC 5510: Advanced Child and Adolescent Development
Online, 3 Credit Hours, Fall Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: Completion of one child and/or adolescent development course with a grade of B or higher that meets the Child Life Certification Commission's course requirement. Lifespan Development courses do not count for the prerequisite based on the Child Life Certification Commission's course requirements.

Texts and References

Assigned Readings posted in iLearn

Course Welcome and Description

Welcome to HEC 5510: Advanced Child and Adolescent Development.

Advanced discovery of child and adolescent development including cognitive, physical, social, and emotional development with application of knowledge to healthcare and stressful events children and adolescents experience.

This course meets Association of Child Life Professionals (ACLP) Competencies I.A. a, and I.F.b.

Course Objectives/Student Learning Outcomes

At the completion of the course, students will be able to:

1. Describe developmental milestones and theories of human growth and development.
2. Explain learning styles and needs of children and adolescents with various developmental levels and emotional states. (I.F.b.)
3. Apply developmental milestones and theories of growth and development to work with children and adolescents in healthcare and stressful events. (I.A.a)
4. Examine developmental needs of children with complex healthcare needs and disabilities.
5. Critique developmental theories of growth and development for various sociocultural perspectives.

6. Construct developmental and theoretical evidence-based practices.

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Theories of Human Development and Growth through Adolescence

Learning styles and needs of individuals with various developmental levels

Application of developmental needs of children and adolescents in stressful situations

Developmental and theoretical evidence-based practices

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Literature review of theories of human development and growth
75 points

Assignment 2 -Case Study to apply theories of growth and development for a child or adolescent, including evidenced-based practices (I.A.a.)
100 points

Assignment 3 -Case Study to apply learning styles/emotional state to a child or adolescent; including evidence-based practices (I.F.b.)
100 points

Assignment 4 -Written paper based on Literature Review to include sociocultural perspectives
150 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
 10 points each, can drop one: 70 points

Possible Points: 695

All grading rubrics are located on iLearn in the assignment dropbox.

Grading Scale

letter grade	grade range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99 and below

7.2

Course Policies

Student Academic Misconduct Policy

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Disability Accommodation

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Additional Resources

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For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

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Pandemic Protocols

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ACLP Child Life Competencies, 2019

HEC 5510 Advanced Child and Adolescent Development	
Competency	Assignment
I.A.a. Articulate theories of human growth and development, play and family systems	Theories of Human Growth Case Study
I.F.b. Articulate learning styles and needs of individual with various developmental levels, emotional states, and of diverse backgrounds and experiences	Learning Styles Case Study

7.2

Tennessee Tech University
School of Human Ecology
HEC 6515: Research in Child Life
Online, 3 Credit Hours, Spring Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites [if applicable]

Texts and References

Required

Daniels, S., Burns-Nader, S., & Boles, J. (2021). *Research methods for child life specialists*. Newcastle, UK; Cambridge Scholars Publishing.

References

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (7th ed.). Washington, D.C.: American Psychological Association.

Course Welcome and Description

Welcome to HEC 6515: Research in Child Life Lec. 3. Credit.3.

Application of research design and methodologies to the child life profession.

This course meets Association of Child Life Professional Competencies IV.A. a and b.

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Describe research methodologies and designs relevant to the child life field (qualitative, quantitative, mixed methods, action research, evidence-based practice, and quality improvement). ACLP Comptency IV.A.a
2. Articulate the role and purpose of research literacy, evidence-based practice, and research ethics. ACLP Competency IV.A.b.

3. Apply basic research methods, statistics, and outcomes to clinical practice and program evaluation.
4. Appraise the value of research knowledge translation and dissemination of outcomes related to clinical practice and program review.
5. Examine and evaluate research methodologies and data analysis to determine design for research proposal.
6. Develop a research proposal with applicability to child life practice.
7. Effectively communicate learning, research, and best practices verbally and in writing.(SLO5)

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Research Methodologies

Application of Research Methods to Clinical Practice and Program Evaluation

Translation and Dissemination of Research

Creation of Research Proposal

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Synthesis of research methodologies used in Child Life Research
100 points

Assignment 2 -Literature Review of research methods used in program review
75 points

Assignment 3 -Written grant proposal based on literature review (IV.A.a and IV. A.b) (SLO5)
150 points

Assignment 4 -Review and reflection of outcomes measures in clinical practice
75 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
10 points each, can drop one: 70 points

Possible Points: 670

All grading rubrics are located on iLearn in the assignment dropdown.

Grading Scale

letter grade	grade range
A	90-100
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ACLP Child Life Competencies, 2019

HEC 6515 Research in Child Life	
Competency	Assignment
IV.A.a. Describe research methodologies that are relevant to the child life field (qualitative, quantitative, mixed methods, evidence-based practice, and quality improvement. (SLO5)	Grant Proposal
IV.A.b. Articulate the role and purpose of research design. (SLO5)	Grant Proposal

7.2

Tennessee Tech University
School of Human Ecology
HEC 6535: Adult Development & Psychosocial Care
Online, 3 Credit Hours, Fall Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 6535: Advanced Child and Adolescent Development

Texts and References

Assigned Readings in iLearn

Course Welcome and Description

Welcome to HEC 6535: Adult Development & Psychosocial Care. Lec. 3. Credit. 3.

Advanced discovery of adult development including cognitive, physical, social, and emotional development with application of knowledge to psychosocial care for healthcare.

This course meets Association of Child Life Professional Competencies I.A.a., I.F.b., III.B.d.

Course Objectives/Student Learning Outcomes

At the completion of the course, students will be able to:

1. Describe developmental milestones and theories of human growth and development for adults. (I.A.a.)
2. Explain learning styles and needs of adults with various developmental levels and emotional states. (I.F.b.)
3. Apply developmental milestones and theories of growth and development to work with adults in healthcare and stressful events, including supervision of students and volunteers. (III.B.d)
4. Examine developmental needs of adults with complex healthcare needs and disabilities.
5. Critique developmental theories of growth and development for various sociocultural perspectives.
6. Construct developmentally and theoretically evidence-based practices.

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Theories of human growth and development for adults, including sociocultural perspectives

Learning styles and needs of adults with various developmental levels

Application of adult learning styles to the supervision of students and volunteers

Development of evidence-based practices

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Synthesis of adult learning styles

75 points

Assignment 2 -Literature Review of human growth theories for adults (I.A.a.)

75 points

Assignment 3 -Written research paper based on Literature Review; to include various developmental levels and emotional states (I.F.b.)

150 points

Assignment 4 -Case Study of adults in healthcare and stressful events (III.B.d)

100 points

Assignment 5 – Application of adult learning styles in a training inservice for Child Life volunteers (III.B.d.)

100 points

Checkpoint Quizzes (4)

50 points each: 200 points

Discussion Posts (8, drop 1)

10 points each, can drop one: 70 points

Possible Points: 770

All grading rubrics are located on iLearn in the assignment dropdown.

Grading Scale

letter grade	grade range
A	90-100
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7.2

Course Policies

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ACLP Child Life Competencies, 2019

HEC 6535 Adult Development and Psychosocial Care	
Competency	Assignment
I.A.a. Articulate theories of human growth and development, play and family systems	Literature Review
I.F.b. Articulate learning styles and needs of individual with various developmental levels, emotional stress, and of diverse backgrounds and experiences.	Research Paper
III.B.d. Identify adult learning needs	Case Study and Creation of Training Inservice

7.2

Tennessee Tech University
School of Human Ecology
HEC 6520: Families in Healthcare
Online, 3 Credit Hours, Spring Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 5510

Texts and References

Assigned Readings in iLean

Course Welcome and Description

Welcome to HEC 6520: Families in Healthcare Lec. 3. Credit. 3.

Comprehensive study of the family in healthcare experiences including applications to child life practice.

This course meets Association of Child Life Professional Competencies I.A.a., I.A.f., I.D.e., I.E.g., II.C.a., II.C.b., II.C.c., II.C.d., II.C.f.,

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Apply theoretical frameworks of families including family systems to healthcare experiences. (I.A.a.)
2. Synthesize family-centered care and advocacy in relation to the professional and family's role on the multidisciplinary team. (I.D.e.)
3. Implement safe, therapeutic, and healing environments for families; to include identifying challenges in family dynamics and community supports. (I.A.f.)
4. Create self-reflective practices for evaluating professional boundaries in therapeutic relationships with families. (II.C.b.))
5. Demonstrate supportive communication skills to facilitate relationship building with families. (I.E.g., II.C.d.)

6. Describe services and resources of other professionals who interact with Child Life Specialists, describe the structure and function of the interdisciplinary team, and recognize the integral role of patient and family within the interdisciplinary team. (II.C.a., II.C.c., II.C.f.)
7. Create supportive, therapeutic relationships with children and families. (SLO6)

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Theoretical family systems framework applied to healthcare experiences

Family-centered care and advocacy

Professional boundaries and therapeutic relationships with families

Communication skills

The interdisciplinary health care team, its structure and functions

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Literature Review, Theoretical framework of family systems and family-centered care (I.A.a., I.A.f.)

75 points

Assignment 2 -Written research paper based on Literature Review, Present at TTU Creative Inquiry Day (I.A.a., I.A.f.)

150 points

Assignment 3 -Synthesize functions of other professionals on the interdisciplinary health care team; Reflection on the role of patient and family on the team (. (II.C.a., II.C.b., II.C.c., II.C.f.)

50 points

Assignment 4 – Synthesize the legal issues related to patient care; role of guardian, confidentiality polices, Hippa review and other confidentiality responsibilities (I.D.e)
50 points

Assignment 5: Self-Reflection and Assessment of Communication Techniques, and Demonstration of Communication Skills in video counseling session (I.E.g., II.C.d.) (SLO6)
100 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
10 points each, can drop one: 70 points

Possible Points: 695

Grading Scale

letter grade	grade range
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ACLP Child Life Competencies, 2019

HEC 6520 Families in Healthcare	
Competency	Assignment
I.A.a. Articulate theories of human growth and development, play and family systems	Literature review and Research Paper
I.A.f. Recognize families as they define themselves, identifying strengths and challenges in family dynamics and community supports	Literature Review, Research Paper and Presentation

7.2

I.D.e. Identify knowledge of privacy and confidentiality policies.	Synthesis of legal issues
I.E.g. Understand the role of communication, particularly active listening and empathetic responding, in building relationships with families undergoing stress. (SLO6)	Self Reflection, Assessment and Demonstration of Communication Techniques
II.C.a. Describe services and resources of other professionals and identify their roles and functions.	Synthesis and reflection of the functions and roles of the interdisciplinary team
II.C.b. Identify the unique contribution of the family and professionals in the provision of care.	Synthesis and reflection of the functions and roles of the interdisciplinary team
II.C.c. Articulate the organizational structure and function of the interdisciplinary team.	Synthesis and reflection of the functions and roles of the interdisciplinary team
II.C.d. Describe the impact of communication styles on groups and individuals.	Self Reflection, Assessment and Demonstration of Communication Techniques
II.C.f. Recognize the integral role of patient and family within the interdisciplinary team.	Synthesis and reflection of the functions and roles of the interdisciplinary team

7.2

Tennessee Tech University
School of Human Ecology
HEC 6565: Intro to Child Life Clinical Experience
Online, 1 Credit Hour, Summer Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisite: Admission to Child Life Experiential Learning Graduate Program

Texts and References

Required

Thompson, R.H. (Ed.). (2018). *The handbook of child life: A guide for pediatric psychosocial care* (2nd edition). Springfield, IL: Charles C. Thomas.

Rollins, J.A, Bolig, R., & Mahan, C.C. (2018). *Meeting children's psychosocial needs across the health-care continuum* (2nd ed.). Austin, TX: Pro-ed, Inc.

Course Welcome and Description

Welcome to HEC 6565: Introduction to Child Life Clinical Experience Credit 1.

Preparation for child life clinical experience (internship) including application processes, interviews, and communicating for competitive experiential learning positions in pediatric healthcare. This course is taught by a Certified Child Life Specialist and meets the content requirements to meet Child Life Certification Commission Academic Eligibility Requirements.

Course Objectives/Student Learning Outcomes

At the completion of this course the student will be able to:

1. Articulate the Certified Child Life Specialist's scope of practice and unique role as a professional member of the multidisciplinary team.
2. Differentiate the functions of the Association of Child Life Professionals (ACLP) and the Child Life Certification Commission (CLCC) recognizing the importance of the Official

Documents of the Association of Child Life Professionals and the process for becoming a Certified Child Life Specialist.

3. Synthesize academic knowledge, professional strengths, and skills for marketing yourself to the clinical internship application process including professional resume construction and various interview techniques.
4. Demonstrate appropriate communication techniques for the application process to the Child Life Clinical Experience.

Major Teaching Methods

Readings, assignments, projects

Special Instructional Platform/Materials

All course materials are posted in iLearn

Topics to be Covered

Child Life Scope of Practice

Resumes, Interviews, Application Process

Communication Techniques

Professional Associations

Course Schedule

The course schedule with assignment details and due dates is in iLearn.

Grading and Evaluation Procedures

Resume and Personal Statement	100 points
Scope of Practice Project	100 points
Interview Practice	50 points

Application of Communication Techniques 100 points

Possible Points: 350 points

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59 and below

Course Policies

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7.2

Tennessee Tech University

Human Ecology

HEC 6570: Child Life Pre-Internship Experiential Learning

Practicum, 3 Credit Hours, Summer

7.2

Instructor Information

Instructor's Name: Dr. Cara Sisk, CCLS

Office: OKLY 117

Telephone Number: (931) 372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 5500, HEC 5510, HEC 5025, HEC 6535, HEC 6520

Texts and References

Required:

Association of Child Life Professional's (ACLP) Pre-Internship Learning Modules

Course readings and materials will be posted in iLearn.

Course Welcome and Description Credit 3

Welcome to HEC 6570: Child Life Pre-Internship Experiential Learning

Applied experiential learning including integration and application of child life, developmental, family, and psychosocial knowledge and skills in a variety of settings that provide care to children and families as approved by the Child Life Graduate Program Director.

Course Objectives/Student Learning Outcomes

At the completion of this course, the student will be able to:

1. Observationally assess development of children and families to inform the plan of care using APIE process.
2. Initiate rapport building with children and families for the purposes of play to foster trust building with professional boundaries.
3. Identify ways to respect sociocultural diversity, developmental levels, family-centered care, and individual needs.

4. Plan and implement play activities for children and families focusing on child-centered activities and materials.
5. Assess environments for safety, healing, and therapeuticness.
6. Apply knowledge of stress and coping to observations of children and families unique needs.
7. Recognize child and family learning needs and teaching techniques to support development and emotional needs.

The ACLP Pre-Internship Learning Modules are one of the assessment tools for this course. Students are expected to receive a grade of 80% or better on each module to demonstrate competency.

7.2

Major Teaching Methods

Direct observation and mentoring from site supervisors, readings, journals, course assignments and projects

Special Instructional Platform/Materials

All course materials are posted in iLearn.

Topics to be Covered

- Professional development
- Observation techniques
- Diversity, equity, inclusion, and accessibility
- Power of play

Course Schedule

Course schedule, assignment details, and due dates posted in iLearn.

Students should expect to complete a minimum of 120 hours of experiential learning; the number of hours is determined once the placement is confirmed. Students should confirm the requirements of the hosting pediatric hospital where they have been accepted for practicum hours.

Course Breakdown

Detailed guidance for journals and other course requirements, including evaluations can be found on iLearn.

Grading and Evaluation Procedures

Completion of Supervised Experiential Learning (700 Points)

- Includes at least 120 hours of supervised experiential learning in the settings approved by the instructor; and confirmed by student.

- If a student receives an evaluation of less than 4 on a preceptor evaluation, they may be asked to complete additional hours until they are competent in that particular area.
- The student should submit a reflective journal following the guidelines in iLearn.
- Site supervisor’s verification of number of hours completed
- Site supervisor’s evaluation of student performance
- All assignments submitted in iLearn by due dates – completion of ACLP Pre-Internship Learning Modules
- Discussion Posts (4 @ 10 points each)
- Completion of project or case study as determined by Instructor and Site Supervisor

Grading Scale

Letter Grade	Grade Range
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Course Policies

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Tennessee Tech University
School of Human Ecology
HEC 6500: Child Life Assessment
Online, 3 Credit Hours, Fall Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 6535: Adult Development and Psychosocial Care

Texts and References

Required

Gaynard, L., et al. *Psychosocial care of children in hospitals: A clinical practice manual from the ACCH child life research project*. Rockville, MD; Child Life Council.

Kuttner, L. (2010). *A child in pain what health professionals can do to help*. Bethel, CT; Crown House Publishing Co. LLC.

References

Children's Hospital of Wisconsin (2007). *Milestones growth and development guide sixth edition*. Milwaukee, WI: Maxishare

Hudson, J. (2006). *Prescription for success: supporting children with autism spectrum disorders in the medical environment*. Shawnee Mission, KS: Autism Asperger Publishing Co.

Course Welcome and Description

Welcome to HEC 6500: Child Life Assessment Lec.3. Credit.3.

Child Life assessment techniques with children and families in healthcare and stressful life events.

This course meets Association of Child Life Professional Competencies I.A.b., I.A.c., I.A.e., I.A.g., I.E.a., I.E.d., I.F.d., I.F.e, II.A.b

Course Objectives/Student Learning Outcomes

At the completion of this course the student will be able to

1. Apply developmental and theoretical knowledge to child life assessment. (I.A.b., I.A.e.)
2. Demonstrate knowledge of child life assessment to clinical practice.
3. Organize relevant data used to develop child life assessment. (I.A.c.)
4. Examine types and signs of stress and coping strategies in children and families. (I.E.a., I.E.d.)
5. Evaluate the child life scope of practice and interconnections to practice settings. (I.F.d., I.F.e, II.A.b)
6. Formulate child life assessments and documentation.(I.A.g.)

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and case study are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Child Life assessment techniques and application to clinical practice

Examination of types and signs of stress and coping strategies in children and families

Child Life Scope of Practice and interconnections to practice settings

Formulation of child life assessments and documentation

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Chart notes to demonstrate effective assessment documentation (I.A.g.)

75 points

Assignment 2 -Case Study to include stress and coping strategies for children and families

(I.A.c., I.E.a., I.E.d.)

75 points

Assignment 3 -Synchronous simulation seminar over assessment techniques, with reflection

(I.A.b., I.A.e.)

150 points

Assignment 4 -Video of counseling session to include assessment techniques, with written script (I.F.d., I.F.e, II.A.b)

150 points

Checkpoint Quizzes (4)

50 points each: 200 points

Discussion Posts (8, drop 1)

10 points each, can drop one: 70 points

Possible Points: 720

All grading rubrics are located on iLearn in the assignment dropdown.

Grading Scale

letter grade	grade range
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ACLP Child Life Competencies, 2019

HEC 6500 Child Life Assessment	
Competency	Assignment
I.A.b. Describe formal and informal techniques to assess developmental and emotional state.	Simulation Seminar
I.A.c. Identify relevant data used to develop a comprehensive child life assessment.	Case Study

I.A.e. Identify how children and families interpret and make meaning of health, illness, and loss.	Simulation Seminar
I.A.g. Describe the cyclical process of assessment, plan, intervention, and evaluation of child life services.	Chart notes
I.E.a. Identify types of stressful events affecting children and families, including medical procedures, pain, traumatic life events, loss, end of life, and grief work.	Case Study
I.E.d. Describe sensory, cognitive, and behavioral coping strategies specific to developmental stages and populations.	Case Study
I.F.d. Describe common fears, misconceptions, and concerns of individuals in each developmental stage.	Counseling Session Video
I.F.e. Describe how children construct knowledge of their healthcare experience through interaction with other children, adults, and materials.	Counseling Session Video
II.A.b. Demonstrate an understanding of the interconnections between scope of practice and practice setting.	Counseling Session Video

7.2

Tennessee Tech University
School of Human Ecology
HEC 6510: Play: Theory & Practice
Online, 3 Credit Hours, Fall Semester

7.2

Instructor Information

Instructor's Name: New Hire, Lecturer

Office: Oakley Hall XX

Telephone Number: 931-372-XX

Campus Email:

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Texts and References

Assigned readings in iLearn

Course Welcome and Description

Welcome to HEC 6510: Play: Theory and Practice Lec. 3. Credit. 3.

Advanced study of play theories and relevance of play modalities to child life practice including developmental, expressive, therapeutic, and medical play.

This course meets Association of Child Life Professional Competencies I.C.a., I.C.b., I.C.c., I.C.d., I.C.e., I.C.g., I.D.d.

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Apply knowledge of developmental and play theories to child life practice. (I.C.a.)
2. Examine developmentally appropriate therapeutic play and expressive arts approaches. (I.C.g)
3. Evaluate the purpose and value of play methods and materials for children's growth, learning, and development. (I.C.b., I.C.c.)
4. Interpret common play themes relevant to healthcare experiences and life events. (I.C.d.)
5. Design evidence-based play plans incorporating various types of play including therapeutic and medical play. (I.C.e., I.D.d)
6. Create evidence-based play plans addressing the needs of those who have medical complexities and disabilities.

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Developmental and play theories

Purpose and value of play methods and materials

Common play themes relevant to healthcare experiences and life events

Evidence-based play plans to include developmentally appropriate approaches

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Create resource list of play supplies (I.C.c)

75 points

Assignment 2 -Literature Review of developmental and play theories (I.C.a, I.C.g.)

75 points

Assignment 3 -Written research paper based on Literature Review (I.C.b., I.C.g.)

150 points

Assignment 4 -Create play plans/list of play resources (I.C.c., I.C.d.)

150 points

Assignment 5 – Evaluate and Create a play space utilizing developmentally appropriate spaces and health guidelines/position paper (I.C.e., I.D.d.)

100 points

Checkpoint Quizzes (4)

50 points each: 200 points

Discussion Posts (8, drop 1)

10 points each, can drop one: 70 points

Possible Points: 820

Grading Scale

letter grade	grade range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99 and below

Course Policies

Student Academic Misconduct Policy

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AI Policy Statement: Not permitted in this course

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Attendance Policy

As this is an online class, formal attendance is not measured. However, attendance is informally measured when a student submits an assignment before or by the due date, or when students post an original response to a discussion question or respond to classmates’ posts. Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Participation in class will be measured with discussion posts. Discussion post guidelines are on iLearn. Students are also expected to participate through accessing and viewing Module checklists, and through submitting assignments on time. Participation also includes reading instructor emails and contacting the instructor via email, in-person meetings, or Teams when a question arises.

Assignments and Related Policy

There is NO MAKE-UP of exams, quizzes, or assignments. However, if you miss an assignment because of a true illness or emergency, you may be allowed to make up the exam IF you have notified the instructor of your absence before the class period and provided sufficient documentation to the Student Affairs Office.

For an absence to be excused, the appropriate documentation must be provided to the Student Affairs office (doctor's note, etc.). This office will then notify the instructor by e-mail that the absence is confirmed.

Students will be expected to complete assignments and exams on the due date. Students are expected to be competent in iLearn, and to have reliable computer/internet access. Excuses for computers that do not work, or interrupted Internet access, etc., will not be accepted.

Homework assignments and exams are due on the assigned date. It is the student's responsibility to check the course calendar for due dates, and to submit assignments on time. The instructor is not responsible for problems the student may have with submitting assignments on iLearn. Assignments submitted after the due date/time will receive a deduction of 50% of the point total for each day the assignment is late (i.e., 50% on day 1, which is the day it is due in class or on iLearn, 75% on day 2, 100% on day 3).

The instructor will not accept any assignment that is submitted more than a week past the due date for any reason. If an assignment is due at class time, it should be submitted at the beginning of class. Otherwise, it is considered late (50% point deduction). If an assignment is due on iLearn at 11:59 p.m., it is considered late if submitted at 12:00 a.m. (25% point deduction).

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance. If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

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Tutoring

The university provides free tutoring to all Tennessee Tech students. tutoring is available for any class or subject as well as writing, test prep, study skills, resumes. Appointments are scheduled. Please see the [Learning Center website](#) for more information.

Health and Wellness

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students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

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7.2

ACLP Child Life Competencies, 2019

HEC 6510 Play: Theory and Practice	
Competency	Assignment
I.C.a. Articulate the definitions and functions of play.	Research Paper
I.C.b. Identify the developmental and social milestones of play.	Play Practice Video
I.C.c. Identify therapeutic approaches that facilitate open-ended, developmentally-supportive play and expressive arts.	Play Plan/List of Play Resources
I.C.d. Understand common play themes relevant to life events and healthcare experiences.	Play Plan/List of Play Resources
I.C.e. Identify toys and materials that encourage open-ended and expressive play, as well as, close-ended play, and the purpose and value of each.	Position Paper on Health Guidelines for Play Spaces
I.C.g. Identify theories related to play that best support child life practice.	Research Paper
I.D.d. Recognize public health guidelines for technology in early childhood and identify digital content that facilitates learning.	Position Paper on Health Guidelines for Play Spaces

Tennessee Tech University

Human Ecology

HEC 6525 Trauma Informed Care for Helping Professions

Online, 3 Credit Hours, Fall semester

7.2

Instructor Information

Instructor's Name: Elizabeth A. Ramsey, Ph.D., CFLE

Please drop by my office during office hours as posted on my door. Otherwise, the best way to reach me is via email. If needed, we can set up a time to speak by phone or via virtual session.

Office: OKLY 107

Telephone Number: 931-372-6483

Campus Email: eramsey@tntech.edu

Course Information

Prerequisites: HEC 6535 Adult Development & Psychosocial Care

Texts and References

Required

Steele, W. & Malchiodi, C. A. (2012). *Trauma-informed practices with children and adolescents*. New York, NY: Routledge. 0415890527

Van Der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body*. New York, NY: Penguin Books. 978-0-670-78593-3

Suggested

Hallett, K. & Donelan, J. (2019). *Trauma treatment toolbox for teens: 144 Trauma-informed worksheets and exercises to promote resilience, growth, and healing*. PESI Publishing & Media. Eau Claire, WI. 9781683732136

Course Welcome and Description

Welcome to HEC 6525, Trauma Informed Care for Helping Professions! The content and skills that you will gain from this course will equip you in your future careers with individuals and families. Trauma Informed Care is one of my favorite topics to teach, and I look forward to a semester to learn and grow together!

The content and discussion of this course will engage in topics related to trauma on a weekly basis. Some of the topics deal with sexual, physical, or psychological abuse, assault, and/or violence. The content could be triggering and might cause intense distress, physiological, or psychological symptoms for people who have experienced trauma. I will not warn students about upcoming topics, as sensitivity to topics varies among individuals. Additionally, topics may arise

suddenly in discussions that cannot be foreseen. Please note that there is a difference to feeling triggered (as is the case with Post Traumatic Stress Syndrome, PTSD) and feeling uncomfortable (or even angry, shocked, dismayed, disheartened, or disgusted) as this is part of intellectual growth, however, feeling psychologically traumatized or triggered is not. If you anticipate distress regarding a particular topic, please talk to me ahead of time. As always, take care of yourself and each other, and let me know if I can help in anyway. Please share only what you are comfortable sharing in a discussion, online, face-to-face, or assignment.

The TTU Counseling Center is available if you need individual help. You may reach them at 931-372-333, or you may stop by their office located in room 307, Roaden University Center.

Course Description: Lec.3. Credit.3.

Exploring types of trauma and implications on both human and brain development, with an emphasis on parenting and supporting children who have experienced trauma, and the importance of trauma informed responses by professionals to individuals and families.

This course meets Association of Child Life Professional Competencies I.A.d., I.E.a., I.E.b., and I.E.c.

Course Objectives/Student Learning Outcomes

Upon completion of this course, the student is expected to:

1. Differentiate between healthy brain development and unhealthy brain development
2. Analyze the impact and outcomes of trauma in brain development
3. Evaluate the types of stress and its effects within the human body and family system
4. Identify factors that increase children and families vulnerabilities to stress and trauma. (I.A.d., I.E.b.)
5. Conceptualize various types of trauma within the lifespan.(I.E.a.)
6. Evaluate responses to trauma, including implementation of a trauma informed care approach
7. Analyze professional responses to individuals and families experiencing or who have experienced trauma
8. Evaluate common childhood behavior responses to trauma and develop appropriate strategies to effectively guide children
9. Describe immediate and long-term coping styles and techniques as well as their effect on adjustment and behavior. (I.E.c.)
10. Design support plans to aid caregivers who are caring for children who have experienced trauma; and
11. Investigate Adverse Childhood Experiences and recognize responses that build resiliency in individuals throughout the lifespan.

Major Teaching Methods

All course material/information (lectures, assignments, tests/quizzes, discussions, etc.) are in iLearn. A Webcam, Microphone, Smartphone, or other means of communication is needed for synchronous meetings, and/or video assignment submissions (when applicable).

Special Instructional Platform/Materials

laptop, access to internet, and iLearn

Topics to be Covered

1. Healthy brain development
2. Adverse Childhood Experiences and resiliency
3. Impact of trauma on the brain
4. Three types of stress and effects of stress
5. Trauma throughout the various stages of the lifespan
6. Vulnerabilities to stress and trauma
7. Types of trauma
8. Responses to trauma in care professions
9. Behaviors in children in response to trauma
10. Immediate and long-term coping styles and techniques
11. Parent/ Caregiver responses to children experiencing trauma
12. Professional responses to individuals and families experiencing trauma

Course Breakdown

Please see iLearn for specific due dates. All links for submission may be found in iLearn.

Activities:

Activity 1: Healthy/Unhealthy Brain Development Infographic

Activity 2: Types of Trauma Video Chat (I.E.a.)

Activity 3: Trauma Informed Approaches (I.A.d., I.E.b.)

Activity 4: Coping Styles and Techniques (I.E.c.)

Activity 5: Parenting Help

Activity 6: Building Resiliency Video Chat

Discussion Questions 1: Healthy Brain Development & Stress

Discussion Questions 2: Types of Trauma and Impact of Trauma

Discussion Questions 3: Professional Responses to Trauma & a Trauma Informed Approach

Discussion Questions 4: Coping Styles and Techniques

Discussion Questions 5: Childhood Responses to Trauma

Unit 6: Resiliency

Final Exam: Comprehensive Final exam

Literature Synthesis and Review: Extensive review & synthesis over focus interest area.

Grading and Evaluation Procedures

Rubrics are available in iLearn or in class.

Grading Scale

Grading Scale:	Letter Grade:
90-100%	A
80-89%	B
70-79%	C
60-69%	D
59 and below%	F

Evaluation Methods:	Possible Points:
Activities (6 @ 25 points each)	175 Total
Discussion Questions (6 @ 20 points each)	120
Literature Review Proposal	5
Literature Review and Synthesis	100
Literature Review Poster	50
Final Exam	100
Total	550

Course Policies

Student Academic Misconduct Policy

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Artificial Intelligence (AI)

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Attendance Policy

This course is asynchronous; however, you must meet assignment, discussion, and exam deadlines.

Students who are unable to meet class deadlines due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

All students are expected to log into iLearn and complete the required work for this course **in a timely manner**, including participation in any discussion boards and submission of all exams and/or assignments. Please read more information under the assignments and related policy section of the syllabus.

Assignments and Related Policy

No credit will be given for late work. For late work to be considered, **the student must have notified the instructor in advance of the absence via email. Late work will not be accepted for full credit without formal documentation from the Office of Students Affairs.** If the professor deems it is appropriate to accept late work, there is a 25%-point deduction penalty per day for late assignments. For example, if an assignment worth 30 points is late, you would receive 7.5-point deduction for each day it is late. Late work will not be accepted after the third day. There are no extra credit opportunities in this course. There are no "do-over" or resubmission of assignment options. The course grade will be calculated by taking the stated points for each assessment, adding the sums together and calculating a percentage based on the total number of points earned divided by the maximum possible number of points. The final exam must be taken when scheduled.

1. All assignments are mandatory. **Assigned work is due on the assigned date.** If you must be absent, **work is still due on the assigned date by the beginning of class time. Coursework, assignments, and projects that are turned in late WILL NOT be accepted for credit.**
2. It is expected that all work turned in will be of the highest quality. Students should check for neatness, correct spelling, and correct grammar.
3. Unless stated otherwise, all assignments should be word-processed.
4. Take quizzes and exams as scheduled.

EXAM AND PROJECT MAKE-UP:

Missing deadlines for any exam, project, or assignment is **strongly** discouraged. For make-ups to be considered, **the student must have notified the instructor in advance via email.** Proper documentation must be given for missed deadline, including medical note and/or equivalent to justify the absence, **submitted to Academic Affairs.** Upon notice from Academic Affairs of excused absence, a make-up test will be scheduled within 5 working days of the original exam date. It is the student's responsibility to contact instructor to schedule make-up exam. **If** make-up exam is given, make-up exams will differ from the original exam.

In the event that a project presentation is missed, the absent student must submit all work in writing the day and time it is due (via email or iLearn) and will not have the opportunity to make-up group presentations. The group will present as scheduled and will not be penalized for the absent group member; however, the absent person will have points deducted.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden

University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

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Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

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Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

Changes to the Syllabus

Information in the syllabus is a guide for the course. The faculty member reserves the right to make changes as necessary to the schedule and content. If changes are necessitated during the course of the semester, the faculty will notify students by e-mail and post the notification and nature of changes(s) in iLearn. **It is the student's responsibility to check email regularly, login to iLearn regularly, and check for announcements on the course homepage.**

ACLP Child Life Competencies, 2019

HEC 6525 Trauma Informed Care for Helping Professions	
Competency	Assignment
I.A.d. Identify factors that impact a child and family’s vulnerability to stress and trauma.	Trauma Informed Approaches Activity
I.E.a. Identify types of stressful events affecting children and families, including medical procedures, pain traumatic life events, loss, end of life and grief work	Types of Trauma Video Chat
I.E.b. Identify factors that may impact vulnerability to stress.	Trauma Informed Approaches Activity
I.E.c. Describe immediate and long-term coping styles and techniques, as well as their effect on adjustment and behavior.	Coping Styles and Techniques Activity

7.2

Tennessee Tech University
School of Human Ecology
HEC 6530: Loss, Grief, & Bereavement
Online, 3 Credit Hours, Spring Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 6520: Families in Healthcare

Texts and References

Assigned readings in ilearn

Course Welcome and Description

Welcome to HEC 6530: Loss, Grief and Bereavement. Lec.3. Credit.3.

Advanced study of loss, death, grief, and bereavement and the impacts on individuals throughout the lifespan with focused applications to child life practice.

This course meets Association of Child Life Professional Competencies I.A.e., I.E.a., I.E.h., I.E.i.

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Apply developmental theory to individual's and families' understandings of death, dying, grief, bereavement, and loss throughout the lifespan. (I.A.e)
2. Assess individual and family needs related to loss, death, grief, and bereavement and the impacts of these experiences throughout the lifespan. (I.E.a.)
3. Appraise the impact of culture, religion, and spirituality during loss, grief, death, dying, and bereavement experiences.
4. Analyze legal, ethical, and biomedical circumstances related to death and dying.
5. Construct psychosocial plans for supporting child and family needs, including the various stages or models of grief. (I.E.i.)
6. Examine personal experiences, perspectives, and feelings about death and dying to self-reflect on implications for working with people experiencing loss, death, grief, and bereavement. (I.E.h.)

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Stages and models of grief

Application of developmental theory to death, dying, grief, bereavement, and loss throughout the lifespan.

Impact of culture, religion and spirituality during grief experiences

Legal, ethical, and biomedical circumstances related to death and dying

Development of psychosocial plans to support children and families

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Case Study I (I.A.e. and I.E.a.)

100 points

Assignment 2 -Create psychosocial plan, to include stages of grief (I.E. i.)

100points

Assignment 3 – Self Reflection and Assessment of personal experiences related to death and dying (I.E.h.)

75 points

Assignment 4 -Synthesize readings on application of developmental theory to death and dying (I.A.e.)

100 points

Assignment 5 – Case Study II to include legal, ethical and biomedical considerations

100 points

Checkpoint Quizzes (4)

50 points each: 200 points

Discussion Posts (8, drop 1)
 10 points each, can drop one: 70 points

Possible Points: 750

Grading Scale

letter grade	grade range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99 and below

7.2

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ACLP Child Life Competencies, 2019

HEC 6530 Loss, Grief and Bereavement	
Competency	Assignment
I.A.e. Identify how children and families interpret and make meaning of health, illness and loss	Case Study I and Readings
I.E.a. Identify types of stressful events affecting children and families, including medical procedures, pain, traumatic life events, loss, end of life, and grief work	Case Study I
I.E.h. Understand the role of self-reflection in aiding patients and families in the process of mourning.	Self-Reflection and Assessment
I.E.i. Identify the various stages or models of grief.	Psychosocial Plan

7.2

Tennessee Tech University
School of Human Ecology
HEC 6540: Child Life Intervention
Online, 3 Credit Hours, Spring Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites HEC 6500: Child Life Assessment

Texts and References

Assigned readings in ilearn

Course Welcome and Description

Welcome to HEC 6540: Child Life Intervention. Lec. 3. Credit. 3.

Comprehensive study of child life psychosocial interventions with application to healthcare experiences and stressful life events.

This course meets Association of Child Life Professional Competencies I.B.e., I.C.f., I.D.a., I.D.b., I.D.c., I.E.e., I.E.f., I.F.a., I.F.c., I.F.f., II.B.c., II.C.e., III. A.d

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Analyze impacts of environmental design and safety upon human behavior and psychosocial interventions. (I.D.a, I.D.b., I.D.c.)
2. Apply education, psychological preparation, and non-pharmacological pain management techniques and resources that are responsive to the needs of individuals with diverse developmental levels and learning needs to promote learning and mastery. (I.B.e.,
3. Evaluate intervention methods and materials for developmental appropriateness, and cultural connectivity. (I.C.f, .I.F.c)
4. Design targeted evidence-based interventions for specific diagnoses and patient populations. (I.E.e.)
5. Formulate child life intervention plans using developmental theory and child life assessment. (I.E.f., I. F.f., II.B.c., II.C.e., III.A.d.)
6. Apply various healthcare documentations as evidence of child life interventions. (I.F.a.)

7. Incorporate cultural competence in child life assessment and psychosocial interventions.
(SLO2)

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a research paper are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Child Life Specialist Scope of Practice

Therapeutic play, Impact of healthcare experiences

Family-centered care principles and theories

Functions of the professional organizations for Child Life

Communication techniques, self-marketing through resumes and interviews

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 Creation of Education Product(blog, brochure, etc) (I.B.e., I.C.f.)
75 points

Assignment 2 -Literature Review of impact of environmental design on human behavior (I.D.a., I.D.b., I.D.c.)
75 points

Assignment 3 -Training Inservice on creating a safe, therapeutic and healing environment (I.D.c.)
150 points

Assignment 4 -Case Study on pain management techniques, including appropriate documentation of plan of care (I. E.e., I.F.a.)
50 points

Assignment 5 – Case Study on advocacy and the interdisciplinary team (I.E.f, II.B.c., II.C.e., III.A.d.)

150 points

Assignment 6 -Create education session for child with diverse learning needs (I.F.c.,

Assignment 7 – Research paper to synthesize evidence-based practices on child life interventions (I.F.f.) (SLO2)

100 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
10 points each, can drop one: 70 points

Possible Points: 870

Grading Scale

letter grade	grade range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99 and below

Course Policies

Student Academic Misconduct Policy

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AI Policy Statement: Not permitted in this course

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Attendance Policy

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7.2

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Class Participation

Participation in class will be measured with discussion posts. Discussion post guidelines are on iLearn. Students are also expected to participate through accessing and viewing Module checklists, and through submitting assignments on time.

Participation also includes reading instructor emails and contacting the instructor via email, in-person meetings, or Teams when a question arises.

Assignments and Related Policy

There is NO MAKE-UP of exams, quizzes, or assignments. However, if you miss an assignment because of a true illness or emergency, you may be allowed to make up the exam IF you have notified the instructor of your absence before the class period and provided sufficient documentation to the Student Affairs Office.

For an absence to be excused, the appropriate documentation must be provided to the Student Affairs office (doctor's note, etc.). This office will then notify the instructor by e-mail that the absence is confirmed.

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The instructor will not accept any assignment that is submitted more than a week past the due date for any reason. If an assignment is due at class time, it should be submitted at the beginning of class. Otherwise, it is considered late (50% point deduction). If an assignment is due on iLearn at 11:59 p.m., it is considered late if submitted at 12:00 a.m. (25% point deduction).

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central.](#)

Additional Resources

Technical Help

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The university provides free tutoring to all Tennessee Tech students. tutoring is available for any class or subject as well as writing, test prep, study skills, resumes. Appointments are scheduled. Please see the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

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ACLP Child Life Competencies, 2019

HEC 6540 Child Life Intervention	
Competency	Assignment
I.B.e. Recognize educational opportunities and resources that are responsive to the needs of the child and family in order to promote learning and mastery	Creation of Education Product such as a brochure, or blog based on setting
I.C.f. Recognize ways in which activities and materials can encourage cultural connections	Creation of Education Item such as a brochure, or blog based on setting

I.D.a. Explain the impact of environmental design on human behavior	Literature Review
I.D.b. Identify emotional safety hazards and corresponding preventive and protective measures	Literature Review
I.D.c. Identify environmental safety hazards and corresponding preventive and protective measures	Create Training Inservice
I.E.e. Articulate effective non-pharmacological pain management techniques	Clinical Case Study
I.E.f. Identify principles of effective advocacy in partnership with families and other team members.	Advocacy Case Study
I.F.a. Identify basic terminology, processes, and expected plan of care for the population served.	Clinical Case Study
I.F.c. Identify teaching techniques for use with individuals of diverse developmental levels and learning needs.	Education Session
I.F.f. Articulate fundamentals of psychological preparation found in child life literature. (SLO2)	Research Paper
II.B.c. Articulate reasons for and impact of under-involvement and over-involvement of professionals with children and families.	Advocacy Case Study
II.C.e. Identify the importance of advocacy in collaboration with the medical team.	Advocacy Case Study
III.A.d. Identify and articulate a definition of advocacy.	Advocacy Case Study

Tennessee Tech University
School of Human Ecology
HEC 6550: Professional Topics & Ethical Practice
Online, 3 Credit Hours, Spring Semester

7.2

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

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Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisites: HEC 6500 Child Life Assessment

Texts and References

Required

Kiley, A.B. (1992). *Volunteers in child health: Management, selection, and training*. Bethesda, MD; Association for the Care of Children's Health.

Burns-Nader, S. et al., (2021). *Making ethical decisions in child life practice (2nd ed)*. Rockville, MD: Child Life Council.

References

American Psychological Association. (2009). *Publication manual of the American Psychological Association (7th ed.)*. Washington, D.C.: American Psychological Association.

Course Welcome and Description

Welcome to HEC 6550: Professional Topics and Ethical Practice Lec.3. Credit.3.

Advanced study of ethical practice in the child life profession. Comprehensive discovery of professional topics including scope of practice, self-reflection, professional development, working relationships, organizational structure, communication, advocacy, supervision, and program administration and evaluation.

This course meets Association of Child Life Professional Competencies II.A.a., II.A.c., II.A.d., II.B.a., II.B.b., III.A.a., III.A.b., III.A.c., III.B.a., III.B.b., III.B.c., V.A.a., V.A.b., V.A.c., V.B.a., V.B.b., V.B.c., V.B.d.

Course Objectives/Student Learning Outcomes

At the completion of this course, students will be able to:

1. Ensure ethical responsibility relevant to child life perspectives, policies, and practices.(SLO4)
2. Demonstrate knowledge of the child life profession's scope of practice. (II.A.a., II.A.d.)
3. Apply self-reflective methods to enhance clinical practice and career sustainability.(II.A.c., II.B.a., II.B.b.)
4. Explain organizational structure and impacts on the child life profession. (V.B.a., V.B.b)
5. Develop critical inquiry and advocacy skills required for the provision of holistic child life practice and quality psychosocial care (III.A.a, III.A.b., III.A.c.) (SLO1)
6. Evaluate communication methods for various audiences including supervisory skills. (III.B.a., III.B.b., III.B.c.)
7. Examine program administration and evaluation priorities and needs. (V.A.a, V.A.b., V.A.c., V.B.c., V.B.d.)

7.2

Major Teaching Methods

This is an online course.

Reading, homework projects and activities, discussion boards, and a case study are the primary modes of learning for this class. This is outlined in the modules on iLearn.

Special Instructional Platform/Materials

iLearn, YouTube, government, and other useful websites

Topics to be Covered

Code of Ethics and Scope of Practice for Child Life

Self-assessment of professional development needs and career sustainability

Working relationships and service provision

Communication methods for various audiences

Program administration and evaluation

Course Schedule

Due dates are also specified on the Course Calendar document on iLearn. All assignments will be submitted on iLearn.

Course Breakdown

Detailed guidance on each assignment can be found on iLearn. Assignment descriptions and rubrics for the major assignments and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Assignment 1 -Scope of Practice/Professional Development Portfolio (II.A.a., II.A.c., II.A.d) (SLO1)
100 points

Assignment 2 -Personal Self-Assessment of Resiliency and Resource List (II.B.a., II.B.b)
75 points

Assignment 3 – Literature Review of scope of practice and ethical practices; and Ethical Case Study (III.A.b., III.A.c.) (SLO4)
100 points

Assignment 4 -Synthesize information on types of communication methods for various audiences; written resource list (III.A.a., III.B.a., III.B.b.)
75 points

Assignment 5 – Create orientation manual for volunteers (III.B.c)
75 points

Assignment 6 -Written report that benchmarks two other disciplines for program structure, assessment and evaluation techniques and applied to Child Life; choose a hospital or clinical setting (V.A.a, V.A.b., V.A.c., V.B.A., V.B.b., V.B.c., V.B.d)
200 points

Checkpoint Quizzes (4)
50 points each: 200 points

Discussion Posts (8, drop 1)
10 points each, can drop one: 70 points

Possible Points: 895

All grading rubrics are located on iLearn in the assignment dropbox.

Grading Scale

letter grade	grade range
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ACLP Child Life Competencies, 2019

HEC 6550 Child Life Professional Topics and Ethical Practice	
Competency	Assignment
II.A.a. Demonstrate an understanding of the scope of practice as defined by the appropriate state jurisdiction or regulatory organization. (SLO1)	Professional Development Portfolio
II.A.c. Take action to ensure personal responsibilities and professional competencies are maintained and do not fall below a level considered acceptable in the field of practice.	Professional Development Portfolio
II.A.d. Manage overlaps in scope of practice with other professions.	Professional Development Portfolio
II.B.a. Recognize and describe how personal challenges and learning needs in knowledge and practice skills may impact service delivery.	Self-assessment of Resiliency
II.B.b. Identify resources and opportunities for professional development.	Self-assessment of Resiliency
III.A.a. Describe and integrate the basic concepts of public speaking and teaching methods appropriate to subject matter and audience.	Resource list of communication methods
III. A.b. Identify classic and current literature on issues related to child life services in a manner meaningful to the audience. (SLO4)	Literature Review and Case Study
III. A.c. Articulate the process for engaging in evidence-based practice.	Literature Review and Case Study
III.B.a. Discuss supervisory styles and their impact on others.	Resource list of communication methods

III.B.b. Identify skills and knowledge necessary for others to completed assignments and tasks.	Resource list of communication methods
III.B.c. Articulate student and volunteer program goals and expectations in the context of providing child life services.	Orientation Manual
V.A.a. Identify program components that require assessment.	Benchmarking Report
V.A.b. Identify meaningful data for effective evaluation of child life services.	Benchmarking Report
V.A.c. Describe resources to assist in evaluation and development of services.	Benchmarking Report
V.B.a. Identify organizational structure and relevant policies and procedures.	Benchmarking Report
V.B.b. Articulate the mission and goals of the work environment.	Benchmarking Report
V.B.c. Identify methods for obtaining needed resources.	Benchmarking Report
V.B.d. Identify information necessary for effectively managing resources.	Benchmarking Report

7.2

Tennessee Tech University
School of Human Ecology
HEC 6575: Child Life Clinical Experience
Internship, 3 Credit Hours, Summer Semester

Instructor Information

Instructor's Name: Cara Sisk, PhD, CCLS

Office: Oakley Hall 117

Telephone Number: 931-372-6017

Campus Email: csisk@tntech.edu

Office Hours: TR, 10:00-12:00. Also available by appointment outside of office hours for on-campus or virtual meetings. I will respond to all emails within 24 hours of receipt Monday-Friday and will respond to emails received on the weekend on Monday before 12:00 p.m.

Course Information

Prerequisite: Admission to Child Life Experiential Learning Graduate Program

Texts and References

No text is required. Internship sites may assign required readings.

Reference the ACLP's Child Life Clinical Internship Curriculum Learning Modules

Course Welcome and Description

Welcome to HEC 6675: Child Life Clinical Experience! Credit 3.

Experiential learning in a pediatric healthcare facility to develop clinical child life skills. Direct supervision by a Certified Child Life Specialist who meets internship supervisor requirements and is in good standing with the ACLP is required. In order to meet the Association of Child Life Professionals eligibility requirements to sit for the Child Life Certification Exam, the Child Life Internship experience must be a minimum of 600 clock hours.

Course Objectives/Student Learning Outcomes

At the completion of this course, the student will be able to:

1. summarize the development of child life as a profession;
2. apply academic theory to child life clinical practice;
3. formulate child life assessments based on developmental and psychosocial vulnerability;

4. design child life interventions incorporating developmental, medical, and therapeutic play to assist patient coping;
5. demonstrate effective communication skills with patients, families, health care team members, and management both verbally and in writing through the medical record;
6. devise plans for psychological preparation and procedural support to relieve patient stress, anxiety, and pain;
7. value patient and Family-Centered Care principles;
8. discuss palliative care philosophy in pediatric health care;
9. manage administrative duties pertaining to volunteer supervision, event programming, resource management, and record keeping;
10. employ professional practices in all aspects of work.

Major Teaching Methods

Hands on learning, mentoring, and supervision from a qualified Certified Child Life Specialist supervisor during clinical experience. Reflective journaling for documentation of activities. Site supervisor and university supervisor feedback and evaluations.

Special Instructional Platform/Materials

All course materials are posted in iLearn

Topics to be Covered

The ACLP requires interns to have a Clinical Experience Verification Form signed by the site supervisor as proof of a clinical child life internship experience. Students are encouraged to review the Definition of Clinical Experience at the link below to insure this information is being provided during an internship from the desired pediatric facility.

[Verification Form](#)

The ACLP Child Life Clinical Internship Curriculum Learning Modules will be used as an assessment tool in this class.

These provide a thorough outline of what interns should expect to learn per the ACLP. See also the Child Life Certification Commission Toolkit list of Internship Skills provided at the end of this syllabus.

Course Schedule

Course schedule, assignment details, and due dates may be accessed on iLearn.

Course Breakdown

Detailed guidance on each assessment item can be found on iLearn. Descriptions for assessment items and for the discussion posts can be found in the assignments tab, in each module, and in the dropboxes for those particular assignments.

Grading and Evaluation Procedures

Completion of Supervised Experiential Learning (1000 Points)

- Includes at least 600 hours of supervised experiential learning in the settings approved by the instructor; and confirmed by student.
- If a student receives an evaluation of less than 4 on a preceptor evaluation, they may be asked to complete additional hours until they are competent in that particular area.
- The student should submit a reflective journal following the guidelines in iLearn; the first submission will be a minimum of 6 written goals for the internship
- Site supervisor’s verification of number of hours completed - ACLP Verification Form completed by Site supervisor
- Site supervisor’s evaluation of student performance
- Instructor’s evaluation of student performance
- All assignments submitted in iLearn by due dates – completion of ACLP Clinical Internship Curriculum Learning Modules, Case Studies, Summary of Internship Experience (min 5 pages), Portfolio
- Discussion Posts (4 @ 10 points each)
- Completion of project or case study as determined by Instructor and Site Supervisor

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	59.99and below

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7.2

Attendance Policy

Attendance is mandatory during the internship and should be considered a professional privilege, as well as, a responsibility. Any absence should be discussed with the site supervisor for approval in order to make up missed work time and maintain clock hours necessary for internship completion.

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

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For an absence to be excused, the appropriate documentation must be provided to the Student Affairs office (doctor's note, etc.). This office will then notify the instructor by e-mail that the absence is confirmed.

Students will be expected to complete assignments and exams on the due date. Students are expected to be competent in iLearn, and to have reliable computer/internet access. Excuses for computers that do not work, or interrupted Internet access, etc., will not be accepted.

Homework assignments and exams are due on the assigned date. It is the student's responsibility to check the course calendar for due dates, and to submit assignments on time. The instructor is not responsible for problems the student may have with submitting assignments on iLearn. Assignments submitted after the due date/time will receive a deduction of 50% of the point total for each day the assignment is late (i.e., 50% on day 1, which is the day it is due in class or on iLearn, 75% on day 2, 100% on day 3).

The instructor will not accept any assignment that is submitted more than a week past the due date for any reason. If an assignment is due at class time, it should be submitted at the beginning of class. Otherwise, it is considered late (50% point deduction). If an assignment is due on iLearn at 11:59 p.m., it is considered late if submitted at 12:00 a.m. (25% point deduction).

Course Requirements:

1. Students must obtain and sign the background check and drug screen consent form from Dr. Sisk.
2. Students enrolled in HEC 6575 will pay a fee for liability insurance when registering and paying for the class.
3. Students must pay to have a background check completed via True Screen at www.truescreen.com. There is a fee for this. Access is included in with the HEC Child Life program when accessing TTU on this website. Your advisor will keep a copy in your student file and you may access the online results to distribute to the internship supervisor.
4. A current Tuberculosis Skin test is required and can be done at Student Health Services for a small fee.
5. Current CPR Certification is required and if a certification update is necessary this will be an out of pocket expense. The student will be responsible for finding a CPR course.
6. Students are responsible for any/all out of pocket expenses associated with the internship experience including, but not limited to travel, meals, living expenses, application fees, etc.
7. If an internship placement requires a drug screening, students may have one done at Student Health Services for a fee. The student must complete a consent form with Dr. Sisk before taking the drug screen. The student must inform Health Services they need to sign a waiver for “green flag or red flag” results to be sent to Dr. Sisk.
8. A Certified Child Life Specialist must supervise the internship student per the ACLP. Supervisor qualifications may be found at the following link:

Professionalism in meeting journal due dates, assignment deadlines, and strict adherence to the site supervisor’s policies will contribute to a positive learning experience.

University Assignments:

In order to exhibit professionalism, assignments required by the university must be completed during the student’s own time away from the internship facility. **All assignments are due in iLearn 1 week before your Portfolio Review meeting.**

1. Submit a minimum of 6 written goals for the internship university supervisor prior to the internship start date.
2. Written weekly reflective journal submissions are to be sent electronically to the university supervisor via the course site on iLearn by the Monday of the following week. Journal entries should include:
 - a. The student’s perception of and reaction to job experiences and observations.

- b. Description of child life assessment, planning, and intervention processes for clinical patient care experiences. Or a description of professional responsibilities if discussing non-clinical experiences.
 - c. An evaluation of these experiences and observations including the impact on child, family, and health care team.
 - d. The student’s suggestions for alternative means of attaining the desired goal in experiences.
 - e. Application of experiences to child life competencies from ACLP. Which may be found at <http://www.childlife.org/files/ChildLifeCompetenciesUPDATED.pdf>
3. A mid-term and final case study are to be submitted electronically to the university supervisor via the course site on iLearn.
 4. A minimum of 5 chart notes 2 specifically related to the case studies to the university supervisor via the course site on iLearn. Consult with internship supervisor regarding how to abide by HIPPA and meet this requirement.
 5. An outline including photo of the hospital project determined by the site supervisor and intern.
 6. Written summary of the internship evaluating learning and sharing the experiences that had the most impact on you as a future CCLS.
 7. Mid-term and final evaluation of skills based on the site supervisor’s evaluation
 8. Portfolio presentation to university supervisor.
 9. Evaluation meeting with university supervisor.

Professional Portfolio & Presentation:

Each student will create a professional portfolio documenting the knowledge implemented, child life skills developed, and professional abilities acquired during the internship. The portfolio should be well organized in a professional binder with contents clearly labeled. The portfolio is a professional tool that students may utilize during job interviews to tangibly highlight their hard work, professional development, and clinical competence with application to the field of child life. Students will meet with Dr. Sisk the week of graduation to review the Portfolio and to provide a professional presentation on the internship experience.

Portfolio Contents

1. Overview of internship pediatric facility
 - a. Mission, vision, values
 - b. Organizational structure
 - c. Site supervisor responsibilities and duties in job description format
 - d. Contact information for site supervisor (phone, fax, mailing address, e-mail)
2. Student goals and objectives for the internship
3. Copy of journal entries
4. Copy of case study
5. Copies of internship assignments
6. Photos and copies of internship project
7. Examples of patient care involvement
8. Copy of resources developed
9. Examples of active interdisciplinary team member
10. Examples of administrative and leadership activities

11. List of professional development hours including courses, classes, grand rounds with instructor name and department, date, time, and topic
12. Illustration of special event involvement
13. Copy of internship evaluations
14. Copy of Course Verification Form
15. Copy of ACLP Eligibility Assessment Process with Courses Submitted
16. Copy of Clinical Experience Verification Form

Portfolio Grading:

Professional Appearance

Organization

Completeness

Highlights strengths, creativity, and individuality

Displays high quality work

Presentation Requirements:

Power Point or other visual media presentation format

Professional dress required

Content is to include basic information about the internship site with the majority of the presentation addressing your experiences as an intern.

Include what you believe future interns would benefit from as students will be invited to the presentation.

Pre-Internship Orientation:

Internship sole focus – Eliminate any distractions for your success

Syllabus and course requirements

Liability insurance

Student goals and objectives for the internship

Internship site requirements and expectations

Mid-term & final phone conference call with site supervisor

Monthly supervision calls with interns

Professional portfolio development

Professional presentation

Role as an intern and relationship with supervisor, CL staff, & organization

Professionalism (dress, demeanor, attendance)

Record keeping requirements

Confidentiality

Your questions and concerns

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden

University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

Child Life Internship Skills to be completed:

1. Establish and maintain professional boundaries- Therapeutic relationships with patients, families, and staff.
2. Establish and maintain professional boundaries- Helping

professions (i.e., social work, child life, music therapy, etc.)

3. Demonstrate knowledge of confidentiality and privacy laws.
4. Adhere to the Child Life Code of Ethics for child life professionals (Use of social media, identification of conflicts of interest, personal peer, and professional accountability, continue to seek knowledge and skills related to the healthcare environment).
5. Advocate for the protection, safety, and rights of the child and family (Mandated reporting, emotional safety, safe environment, consent and assent).
6. Employ knowledge of cultural fluency and provide individualized and equitable care.
7. Integrate self-reflective skills into daily practice (e.g., awareness of biases, projection, transference, etc.)
8. Define evidence-based practice and operate under its principles.
9. Participate in activities of inquiry and integrate findings into practice (Quality improvement, research processes).
10. Initiate and seek opportunities for clinical supervision and professional/personal growth.
11. Identify methods of self-care to manage the impact of exposure to pediatric illness, injury, and healthcare (e.g., stress management, compassion fatigue, secondary trauma, etc.)
12. Employ clear and objective documentation standards in accordance with workplace policy (APIE).
13. Apply principles of adult learning to represent the child life profession and/or the institution to internal and external adult audiences (Speaking to individuals and groups, integrate a variety of educational techniques).
14. Educate others about expected reactions and responses to the healthcare experience using child development and family systems theories, and principles of psychosocial care.
15. Recognize the strengths of the interdisciplinary team (Identify opportunities for collaboration, recognize and initiate appropriate referrals).
16. Identify and apply relevant healthcare data to develop a comprehensive assessment and plan of care by considering the impact of diagnosis, procedures, and treatment.
17. Identify and apply relevant healthcare data to develop a comprehensive assessment and plan of care by anticipating the impacts of illness, injury, and healthcare experiences.
18. Identify and apply relevant healthcare data to develop a comprehensive assessment and plan of care by predicting the impact of healthcare trends, issues, and environment on stress and coping.
19. Assess the physical, cognitive, and social-emotional development of the child.
20. Apply developmental theories to anticipate response and reactions to illness, injury, and healthcare experiences.
21. Select and apply theories of child development (Stress, trauma, and adverse child experiences, coping, temperament, emotional health, resiliency, attachment).

22. Identify variables that impact a child's vulnerability to illness, injury, and healthcare experiences (e.g., history of abuse, physical limitations, absence of support system, etc.).
23. Examine the families' norms, composition, practices, communication styles, and preferences.
24. Demonstrate knowledge of family systems and family stress adaptation theories.
25. Identify how children and families interpret and make meaning of health, illness, and loss.
26. Identify the strengths and challenges in family dynamics and utilization of supports.
27. Assess and articulate comprehension of sociocultural needs and learning styles.
28. Describe and apply philosophies and practices of patientcentered care.
29. Consider socioeconomic status, justice, access and equity, etc. when identifying the availability of community resources.
30. Explore cultural and spiritual values, beliefs, and needs.
31. Apply formal and informal techniques to assess patient/family acuity and psychosocial risk.
32. Adapt services to meet the patient/family's needs, goals, and preferences.
33. Apply the cyclical process of assessment, plan, intervention, and evaluation of services.
34. Collect, interpret, and integrate relevant data into psychosocial assessment and plan of care.
35. Facilitate types of play relevant to illness, injury, and healthcare experiences (Normalizing, developmental, healthcare, therapeutic, child-directed).
36. Prescribe appropriate play practices to facilitate optimal coping (e.g., relationship building, mastery, assessment, education, normalization, etc.).
37. Assimilate healthcare, family, and child variables to implement a plan of care that supports individualized learning needs (Preparation, diagnostic teaching, coping strategies, advocacy for pain management).
38. Empower children and families to advocate for their needs related to illness, injury, and healthcare experiences.
39. Anticipate the implication of trauma, loss, and/or bereavement for children and families.
40. Define and distinguish palliative, hospice, and end-of-life care.
41. Understand and recognize cultural and spiritual preferences for patient and families experiencing loss and/or grief.
42. Describe developmental perceptions of and reactions to trauma, loss, and/or bereavement.
43. Define and distinguish grief, bereavement, and mourning.
44. Articulate types (e.g., anticipatory, complicated, etc.) and theories (e.g., stage and tasks, etc.) of grief experienced by children and families.

45. Provide support and resources to promote transition.
46. Facilitate opportunities for expression of feelings, meaning making, and legacy work.
47. Adapt child life skills to support diverse populations (e.g., gender, sexuality, developmental differences, behavioral health, sensory and processing considerations, etc.)
48. Apply child life development and family systems theories to provide emotional support within the child life scope in regards to environmental safety (e.g., playroom design, healing environment, sensory stimulation, etc.).
49. Apply child life development and family systems theories to provide emotional support within the child life scope in regards to emotional safety (e.g., healthcare adherence, impact of the healthcare plan, etc.).
50. Utilize clear and sensitive communication skills that develop trusting relationships across the continuum.

Appendix E
Child Life Competencies and Assessments

7.2

**Tennessee Tech University Child Life Graduate Program
Child Life Knowledge Competencies and Assessments**

Competency From Association of Child Life Professionals, Academic Competencies, 2019	Course and course number in which the competency is assessed.	List specific, required summative assessment method(s) (exam, rubric, project, etc.) used to measure achievement of the competency
I. Care of Infants, Children, Youth & Families		
A. Competency: The ability to assess the developmental and psychosocial needs of infants, children, youth, and families.		
Knowledge		
a. Articulate theories of human growth and development, play and family systems.	<ul style="list-style-type: none"> • HEC 5510-Advanced Child & Adolescent Development • HEC 6535-Adult Development & Psychosocial Care • HEC 6520-Families in Healthcare 	Human Development Case Study Literature Review Lit. Review & Research Paper
b. Describe formal and informal techniques to assess developmental and emotional state.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	Simulation Seminar
c. Identify relevant data used to develop a comprehensive child life assessment.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	Case Study
d. Identify factors that impact a child and family's vulnerability to stress and trauma.	<ul style="list-style-type: none"> • HEC 6525-Trauma Informed Care for Helping Professions 	Trauma Informed Approaches Activity
e. Identify how children and families interpret and make meaning of health, illness, and loss.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment • Loss, Grief & Bereavement 	Simulation Seminar Case Study I & Readings
f. Recognize families as they define themselves,	<ul style="list-style-type: none"> • HEC 6520-Families in Healthcare 	Research Paper & Presentation

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identifying strengths and challenges in family dynamics and community supports.		
g. Describe the cyclical process of assessment, plan, intervention, and evaluation of child life services.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	Chart Notes
Skill		
a. Apply formal and informal techniques to assess developmental level and emotional state.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Integrate the strengths and resources of the child and family into the plan of care.		
c. Prioritize child life services based on susceptibility to stress and trauma.		
d. Effectively collaborate with members of the service team to create a collaborative plan of care.		
h. Apply the cyclical process of assessment, plan, intervention, and evaluation of services to keep assessments accurate and up-to-date.		
Care of Infants, Children, Youth & Families (continued)		
B. Competency: The ability to initiate and maintain meaningful and therapeutic relationships with infants, children, youth, and families.		
Knowledge		

a. Articulate the tenets of patient and family-centered care.	<ul style="list-style-type: none"> • HEC 5500-Foundations in Child Life 	Research Paper
b. Describe the essential elements of the therapeutic relationship.	<ul style="list-style-type: none"> • HEC 5500-Foundations in Child Life 	Scope of Practice Reading & Reflection
c. Identify effective communication skills to support a child and family.	<ul style="list-style-type: none"> • HEC 5500-Foundations in Child Life 	Self-Assessment of Communication Skills
d. Identify values related to sociocultural diversity.	<ul style="list-style-type: none"> • HEC 5025 -Cultural Issues Influencing Health 	Cultural Case Study
e. Recognize educational opportunities and resources that are responsive to the needs of the child and family in order to promote learning and mastery.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Education Product
Skill		
a. Build trust and rapport with infants, children, youth, and families.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Maintain appropriate professional boundaries to preserve the therapeutic relationship.		
c. Utilize effective communication skills in the process of supporting children and families.		
d. Utilize therapeutic and creative modalities to meet individual		

developmental and emotional needs.		
e. Match and pace interactions according to developmental level, emotional state, family preferences, and individual needs.		
f. Support the central role of the family, valuing strengths and needs in implementing child life services.		
g. Demonstrate respect for sociocultural diversity.		
Care of Infants, Children, Youth & Families (continued)		
C. Competency: The ability to provide opportunities for play for infants, children, youth, and families.		
Knowledge		
a. Articulate the definitions and functions of play.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Research Paper
b. Identify the developmental and social milestones of play.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Play Practice Video
c. Identify therapeutic approaches that facilitate open-ended, developmentally-supportive play and expressive arts.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Play Plan/List of Resources
d. Understand common play themes relevant to life events and healthcare experiences.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Play Plan/List of Resources
e. Identify toys and materials that encourage open-ended and expressive	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Position Paper

play, as well as, close-ended play, and the value and purpose of each.		
f. Recognize ways in which activities and materials can encourage cultural connections.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Education Product
g. Identify theories related to play that best support child life practice.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Research Paper
Skill		
a. Demonstrate the ability to assess individual play needs and incorporate play into daily practice.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Facilitate opportunities for play to decrease distress, provide enjoyment and comfort, enhance mastery, and promote healing.		
c. Plan and implement appropriate play activities and materials for children and families of diverse cultures, varying developmental needs, and physical abilities.		
d. Plan and implement activities that encourage expression of a range of emotions.		
e. Demonstrate the ability to observe a child's play to conduct		

a developmental and coping assessment.		
f. Utilize child-centered responses and techniques to facilitate a safe, non-judgmental, non-evaluative environment for children to explore and express themselves.		
g. Establish safe and engaging play spaces that promote cross-cultural connections facilitate group play, and encourage children to choose and explore at their own pace..		
h. Model and teach child-directed play skills to build capacity in others, such as volunteers, medical staff, and family caregivers.		
Care of Infants, Children, Youth & Families (continued)		
D. Competency: The ability to provide a safe, therapeutic and healing environment for infants, children, youth, and families.		
Knowledge		
a. Explain the impact of environmental design on human behavior.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Literature Review
b. Identify emotional safety hazards and corresponding preventive and protective measures.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Literature Review
c. Identify environmental safety hazards and	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Training Inservice

corresponding preventive and protective measures.		
d. Recognize public health guidelines for technology in early childhood and identify digital content that facilitates coping.	<ul style="list-style-type: none"> • HEC 6510-Play: Theory and Practice 	Position Paper
e. Identify knowledge of privacy and confidentiality policies.	<ul style="list-style-type: none"> • HEC 6520-Families in Healthcare 	Synthesis of Legal Issues
Skill		
a. Establish and maintain a therapeutic, healing and family-centered environment.	<p>Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses</p>	
b. Provide input about facility design to promote orientation, comfort, healing, culturally inclusive materials, security and normalization.		
c. Implement infection control and safety policies and procedures.		
d. Demonstrate respect for and facilitate privacy and confidentiality.		
Care of Infants, Children, Youth & Families (continued)		
E. Competency: The ability to support infants, children, youth, and families in coping with stressful events.		
Knowledge		
a. Identify types of stressful events affecting children and families, including	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment • HEC 6530-Loss, Grief and Bereavement 	<p>Case Study</p> <p>Case Study I</p>

medical procedures, pain, traumatic life events, loss, end of life, and grief work.	<ul style="list-style-type: none"> • HEC 6525-Trauma Informed Care 	Trauma Video Chat
b. Identify factors that may impact vulnerability to stress.	<ul style="list-style-type: none"> • HEC 6525- Trauma Informed Care 	Trauma Informed Approaches Activity
c. Describe immediate and long-term coping styles and techniques, as well as their effect on adjustment and behavior.	<ul style="list-style-type: none"> • HEC 6525-Trauma Informed Care 	Coping Styles and Techniques Activity
d. Describe sensory, cognitive, and behavioral coping strategies specific to developmental stages and populations.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	Case Study
e. Articulate effective non-pharmacological pain management techniques.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Clinical Case Study
f. Identify principles of effective advocacy in partnership with families and other team members.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Advocacy Case Study
g. Understand the role of communication, particularly active listening and empathetic responding, in building relationships with families undergoing stress.	<ul style="list-style-type: none"> • HEC 6520-Families in Healthcare 	Self-Assessment, Assessment and Demonstration of Communication Techniques activity
h. Understand the role of self-reflection in aiding patients and families in the process of mourning.	<ul style="list-style-type: none"> • HEC 6530- Loss, Grief and Bereavement 	Self-Reflection & Assessment activity

7.2

i. Identify various stages or models of grief.	<ul style="list-style-type: none"> • HEC 6530- Loss, Grief and Bereavement 	Psychosocial Plan
Skill		
a. Assess responses to stress; plan, implement and evaluate care accordingly.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Introduce and facilitate rehearsal of techniques to aid immediate and long term coping with consideration for the unique needs of the individual and family, such as coping style, previous experience, developmental level, culture, spirituality, family situation, and emotional state.		
c. Facilitate mastery of potentially stressful experiences.		
d. Utilize appropriate non-pharmacological pain management strategies.		
e. Empower and support patients and families to effectively self-advocate as well as advocate on behalf of those who cannot do so.		
f. Demonstrate an ability to use verbal and non-verbal empathic response with children and caregivers during stressful events.		

7.2

<p>g. Implement a team plan for coping support during medical procedures, including parental presence with guidance, comfort positions, role responsibilities, and distraction techniques to help children refocus their attention.</p>		
<p>h. Facilitate opportunities for play and dialogue following stressful events to reflect upon emotional responses and reinforce coping skills.</p>		
<p>i. Act as a team participant in bereavement work on behalf of families.</p>		
<p>j. Assess self-awareness skills concerning stress, trauma response, loss, and grief work in order to practice effective self-reflection.</p>		
<p>Care of Infants, Children, Youth & Families (continued)</p>		
<p>F. Competency: The ability to provide teaching, specific to the population served, including psychological preparation for potentially stressful experiences, with infants, children, youth, and families.</p>		
<p>Knowledge</p>		
<p>a. Identify basic terminology, processes, and expected plan of care for the population served.</p>	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	<p>Clinical Case Study</p>

<p>b. Articulate learning styles and needs of individual with various developmental levels, emotional states, and of diverse backgrounds and experiences.</p>	<ul style="list-style-type: none"> • HEC 5510-Advanced Child & Adolescent Development • HEC 6535-Adult Development & Psychosocial Care • HEC 5025-Cultural Issues Influencing Health 	<p>Learning Styles Case Study</p> <p>Research Paper</p> <p>Case Study</p>
<p>c. Identify teaching techniques for use with individuals of diverse developmental levels and learning needs.</p>	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	<p>Education Session</p>
<p>d. Describe common fears, misconceptions, and concerns of individuals in each developmental stage.</p>	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	<p>Counseling Session Video</p>
<p>e. Describe how children construct knowledge of their healthcare experience through interaction with other children, adults, and materials.</p>	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	<p>Counseling Session Video</p>
<p>f. Articulate fundamentals of psychological preparation found in child life literature.</p>	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	<p>Research Paper</p>
<p>Skill</p>		
<p>a. Assess knowledge level, misconceptions, previous experience, and unique sociocultural and learning needs.</p>	<p>Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses</p>	
<p>b. Determine realistic goals and objectives for learning in</p>		

collaboration with family members and professionals, and identify an action plan to achieve these goals.		
c. Use accurate and developmentally appropriate teaching aids and techniques to increase knowledge and support emotional needs.		
d. Recognize verbal and non-verbal cues and adapt teaching accordingly.		
e. Use minimally threatening, developmentally supportive language.		
f. Describe sensory information, sequence, timing, and duration of events.		
g. Facilitate planning, rehearsal, implementation, and evaluation of coping strategies.		
II. Professional Responsibility		
A. Competency: The ability to practice within the scope of professional and personal knowledge and skill base.		
Knowledge		
a. Demonstrate an understanding of the scope of practice as defined by the appropriate state jurisdiction or regulatory organization.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics & Ethical Practice 	Professional Development Portfolio

b. Demonstrate an understanding of the interconnections between scope of practice and practice setting.	<ul style="list-style-type: none"> • HEC 6500-Child Life Assessment 	Counseling Session Video
c. Take action to ensure personal responsibilities and professional competencies are maintained and do not fall below a level considered acceptable in the field of practice.	<ul style="list-style-type: none"> • HEC 6550-Professional Topics and Ethical Practice 	Professional Development Portfolio
d. Manage overlaps in scope of practice with other professions.	<ul style="list-style-type: none"> • HEC 6550-Professional Topics and Ethical Practice 	Professional Development Portfolio
Skill		
a. Communicate the child life scope of practice accurately and effectively.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Review scope of practice with peers and supervisors within practice setting.		
c. Coordinate care with the healthcare team and families based on specified scope of practice.		
d. Recommend appropriate professional consults or rereferrals when circumstances are beyond the scope of child life practice.		
Professional Responsibility (continued)		

B. Competency: The ability to continuously engage in self-reflective professional child life practice.		
Knowledge		
a. Recognize and describe how personal challenges and learning needs in knowledge and practice skills may impact service delivery.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Self-Assessment of Resiliency
b. Identify resources and opportunities for professional development.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics & Ethical Practice 	Self-Assessment of Resiliency
c. Articulate reasons for and impact of under-involvement and over-involvement of professionals with children and families.	<ul style="list-style-type: none"> • HEC 6540 -Child Life Intervention 	Advocacy case Study
d. Articulate the impact of one’s own culture, values, beliefs, and behaviors on interactions with diverse populations.	<ul style="list-style-type: none"> • HEC 5025- Cultural Issues Influencing Health 	Case Study
Skill		
a. Include evidence-based practice in decisions about assessment, care, and evaluation.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Implement a plan for professional development based on the needs of the population served and the knowledge and skill level of the child life specialist.		

c. Seek advanced practice mentors and peer supervision.		
Professional Responsibility (continued)		
C. Competency: The ability to function as a member of the service team.		
Knowledge		
a. Describe services and resources of other professionals and identify their roles and functions.	<ul style="list-style-type: none"> • HEC 6520- Families in Healthcare 	Synthesis of interdisciplinary team functions
b. Identify the unique contribution of the family and professionals in the provision of care.	<ul style="list-style-type: none"> • HEC 6520- Families in Healthcare 	Synthesis of interdisciplinary team functions
c. Articulate the organizational structure and function of the interdisciplinary team.	<ul style="list-style-type: none"> • HEC 6520- Families in Healthcare 	Synthesis of interdisciplinary team functions
d. Describe the impact of communication styles on groups and individuals.	<ul style="list-style-type: none"> • HEC 6520-Families in Healthcare 	Self-Reflection, Assessment and Demonstration of Communication Techniques
e. Identify the importance of advocacy in collaboration with the medical team.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Advocacy Case Study
f. Recognize the integral role of patient and family within the interdisciplinary team.	<ul style="list-style-type: none"> • HEC 6520- Families in Healthcare 	Synthesis of interdisciplinary team functions
Skill		
a. Communicate concisely with other professionals, integrating theory and evidence-based practice to obtain and share pertinent information.		

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b. Demonstrate respect for the viewpoints of other professionals.		
c. Coordinate child life services with families and professionals.		
d. Partner with the interdisciplinary team, including the patient and family, to integrate team goals into child life services.		
e. Create concise, objective and accurate clinical notes, documenting information pertinent to the plan of care.		
f. Instruct families in the culture of medicine and delivery of healthcare so that families can effectively self-advocate and navigate the healthcare system.		
g. Serve as an example by modelling the tenets of patient and family-centered care during interactions with patients, families, and staff.		
III. Education and Supervision		
A. Competency: The ability to represent and communicate child life practice and psychosocial issues of infants, children, youth, and families to others.		
Knowledge		
a. Describe and integrate the basic concepts of public speaking and teaching methods appropriate	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Resource list of communication methods

to subject matter and audience.		
b. Identify classic and current literature on issues related to child life services in a manner meaningful to the audience.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Lit Review and Case Study
c. Articulate the process for engaging in evidence-based practice.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Lit Review and Case Study
d. Identify and articulate a definition of advocacy.	<ul style="list-style-type: none"> • HEC 6540-Child Life Intervention 	Advocacy Case Study
Skill		
a. Adapt approaches, media, and content according to audience need.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Apply child life knowledge to contribute to the education of others.		
c. Maintain professional presentation of self, including careful attention to verbal and written communication, as well as personal appearance.		
d. Demonstrate effective advocacy for child life practice and psychosocial issues.		
e. Demonstrate the ability to partner with patients and families and share their unique perspectives in educating others on		

child life practice and psychosocial issues.		
Education and Supervision (continued)		
B. Competency: The ability to supervise child life students and volunteers.		
Knowledge		
a. Discuss supervisory styles and their impact on others.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics & Ethical Practice 	Resource list of communication methods
b. Identify skills and knowledge necessary for others to complete assignments and tasks.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics & Ethical Practice 	Resource list of communication methods
c. Articulate student and volunteer program goals and expectations in the context of providing child life services.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics & Ethical Practice 	Orientation Manual
d. Identify adult learning needs.	<ul style="list-style-type: none"> • HEC 6535-Adult Development & Psychosocial Care 	Case Study and Training Inservice
Skill		
a. Provide comprehensive orientation to the setting, and policies and procedures of the work environment.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Communicate expectations and roles clearly and concisely.		
c. Structure duties and assignments, matching ability to complexity of task.		
d. Provide regular feedback in a constructive manner.		
e. Recommend dismissal, after counseling, when		

7.2

performance does not match expectations.		
f. Evaluate student and volunteer programs and modify as needed.		
g. Provide a safe learning environment.		
IV. Research Fundamentals		
A. Competency: The ability to integrate clinical evidence and fundamental child life knowledge into professional decision-making.		
Knowledge		
a. Describe research methodologies that are relevant to the child life field (qualitative, quantitative, mixed methods, evidence-based practice, and quality improvement).	<ul style="list-style-type: none"> • HEC 6515-Research in Child Life 	Grant Proposal
b. Articulate the role and purpose of research design.	<ul style="list-style-type: none"> • HEC 6515-Research in Child Life 	Grant Proposal
Skill		
a. Access clinically pertinent information from a variety of sources (e.g. research articles, expert opinion, professional conferences).	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Engage in dynamic evaluation of clinical assessments, interventions, and outcomes.		
c. Share evidence-based rationales for assessments, plans, and interventions with colleagues,		

students, patients, and families.		
d. Critically evaluate and apply literature to practice.		
e. Demonstrate ability to write scholarly work.		
V. Administration		
A. Competency: The ability to develop and evaluate child life services.		
Knowledge		
a. Identify program components that require assessment.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
b. Identify meaningful data for effective evaluation of child life services.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
c. Describe resources to assist in evaluation and development of services.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
Skill		
a. Collect and report accurate and pertinent data in a timely manner.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Recommend program improvements based on data and existing resources.		
c. Develop and prioritize the range of child life services.		
Administration (continued)		
B. Competency: The ability to implement child life services within the structure and culture of the work environment.		
Knowledge		
a. Identify organizational structure and relevant policies and procedures.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report

b. Articulate the mission and goals of the work environment.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
c. Identify methods for obtaining needed resources.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
d. Identify information necessary for effectively managing resources.	<ul style="list-style-type: none"> • HEC 6550- Professional Topics and Ethical Practice 	Benchmarking Report
Skill		
a. Prioritize and organize workload for accurate and timely outcomes.	Skills are assessed in HEC 6570 and HEC 6575 Practicum/Internship Courses	
b. Procure and maintain equipment and supplies in a cost-effective manner.		
c. Adhere to relevant policies and procedures.		
d. Advocate for just and equitable delivery of family-centered care in the work environment.		
e. Advocate for the inclusion of the patient and family voice in organizational decision making.		
f. Advocate for positive change.		



Agenda Item Summary

Date: March 6, 2025

Agenda Item: Compensation Plan

Review

Action

No action required

PRESENTERS: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Recommend Approval

President Oldham is recommending a 2.6 % salary pool for FY2025-26. This recommendation is subject to approval of the Governor’s budget which includes funding for 55% of the cost of the recommended 2.6% increase. The university would provide the additional 45% of cost. The adjustment to salaries would be effective July 1, 2025 for staff and August 2025 for faculty (beginning of their new academic year contract).

8.1



Agenda Item Summary

8.2

Date: March 6, 2025

Agenda Item: Non-Mandatory Fees

Review

Action

No action required

PRESENTERS: Dr. Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS:

The only increase in non-mandatory fees being proposed is rental rates for residential halls and apartments on campus. The Residential Hall operations is an auxiliary operation and must cover all costs associated with its operations including construction of new halls/apartments and performing major maintenance on the existing buildings.

The Business Office has worked closely with Residential Life personnel to develop a 5-year financial plan for the residential life operations. The objective of the 5-year plan was to ensure our budget was sufficient to cover costs of operations at a quality level reflective of the University. This includes proper staffing both for administrative and day-to-day building maintenance. The plan also took into consideration the current level of deferred maintenance on existing buildings and the level of annual investment necessary to maintain existing buildings going forward. The plan also considered our current requirements for servicing our debt, and the projected debt service requirement for the new residential hall that will open in fall 2027.

Working together, Residential Life and the Business Office analyzed historical data comparing occupancy rates to total capacity. The result of this analysis shows that we have more upper-class students that would like to live on-campus than what we have capacity to offer these students. This is supported by the housing study completed by Brailsford & Dunlavey in 2020. Although the new residential hall will provide additional capacity of approximately 400 beds, this will only net approximately 200 additional beds as one residence hall (Crawford) is scheduled for demolition shortly after opening of the new hall. The 5-year financial plan is the first step in assisting with identifying and planning for new and replacement housing to facilitate a consistent and common first-year experience and grow the residential population to support vibrant campus experiences for all students.



The 5-year plan for Residential Life includes estimated inflationary costs for operations – salaries, fringe benefits, programing, utilities, and day-to-day maintenance. Based on historical data, we estimated \$5 million annually dedicated to major maintenance projects. This will allow us to bring deferred maintenance up-to-date and continue to plan for major maintenance needs prior to getting to a critical stage.

We are recommending a 5% annual increase in housing rates over the next 5-years starting in fall 2025. Currently our rates are comparable to the local housing market. Our rates include utilities such as electric, water, sewer, internet, and cable services which is not the case for most of the local rental properties. We also looked at rental rates for other LGIs and UT campuses and our rates are reasonable in comparison.

8.2

Tennessee Tech University
Non-Mandatory Fee Proposal Summary
FY2025-2026 Through FY 2029-2030

Proposed Increase in Non-Mandatory Fees for Housing:

		2025-26	2026-27	2027-28	2028-29	2029-30
Traditional Housing (Dormitories)	5% Annually	\$ 729,286	\$ 765,751	\$ 804,038	\$ 1,037,134	\$ 1,088,991
Tech Village	5% Annually	\$ 118,622	\$ 124,553	\$ 130,781	\$ 137,320	\$ 144,186
Total Housing per year		\$ 847,908	\$ 890,304	\$ 934,819	\$ 1,174,454	\$ 1,233,177
Total Increase 5 Year Plan						<u>\$ 5,080,662</u>

8.2

TENNESSEE TECH UNIVERSITY
PROPOSED Housing FEE CHANGES
2025-26 Through 2029-30

Description	Rates (5 Year Plan)							Prior Fee Increase	Objectives and Considerations
	Current 2024-25	Proposed 2025-26	Proposed 2026-27	Proposed 2027-28	Proposed 2028-29	Proposed 2029-30	%		
HOUSING:									
Residence Halls:									
Traditional Double/Triple	\$3,177/sem	\$3,336/sem	\$3,503/sem	\$3,678/sem	\$3,862/sem	\$4,055/sem	5% Annually	2024-25 \$93/3%	*Offset of inflationary costs and fund backlog of deferred maintenance projects.
Traditional Double/Triple - Summer Session*	\$909/sem	\$954/sem	\$1,002/sem	\$1,052/sem	\$1,105/sem	\$1,160/sem	5% Annually	2024-25 \$26/3%	
<i>(Browning/Evins, Cooper/Dunn, Ellington/Warf, Ms Cooper/Pinkerton, Jobe/Murphy)</i>									
Traditional Single	\$3,378/sem	\$4,170/sem	\$4,378/sem	\$4,597/sem	\$4,827/sem	\$5,068/sem	5% Annually	2024-25 \$98/3%	2024-25 \$29/3%
Traditional Single - Summer Session*	\$982/sem	\$1193/sem	\$1,253/sem	\$1,315/sem	\$1,381/sem	\$1,450/sem	5% Annually		
<i>(Browning/Evins, Cooper/Dunn, Ellington/Warf, Ms Cooper/Pinkerton, Jobe/Murphy)</i>									
Traditional Double as Single - Summer Session*	\$1,108/sem	\$1,163/sem	\$1,222/sem	\$1,283/sem	\$1,347/sem	\$1,414/sem	5% Annually	2024-25 \$32/3%	
<i>(Browning/Evins, Cooper/Dunn, Ellington/Warf, Ms Cooper/Pinkerton, Jobe/Murphy)</i>									
Murphy Super Single	\$3,777/sem	\$4,170/sem	\$4,164/sem	\$4,372/sem	\$4,591/sem	\$4,821/sem	5% Annually	2024-25 \$110/3%	
<i>(Murphy Super Single Rooms Only)</i>									
Crawford Double/Triple	\$2,711/sem	\$2,847/sem	\$2,989/sem	Offline	Offline	Offline	5% Annually	2024-25 \$79/3%	
<i>(Crawford)</i>									
Crawford Single	\$2,872/sem	\$3,436/sem	\$3,603/sem	Offline	Offline	Offline	5% Annually	2024-25 \$84/3%	
<i>(Crawford)</i>									
Engineering Village Double/Triple	\$3,277/sem	\$3,441/sem	\$3,613/sem	\$3,794/sem	\$3,983/sem	\$4,182/sem	5% Annually	2024-25 \$93/3%	
<i>(Maddux/McCord)</i>									
Engineering Village Single	\$3,478/sem	\$4,270/sem	\$4,478/sem	\$4,697/sem	\$4,927/sem	\$5,168/sem	5% Annually	2024-25 \$98/3%	
<i>(Maddux/McCord)</i>									
New Halls Double	\$4,192/sem	\$4,402/sem	\$4,622/sem	\$4,8253/sem	\$5,095/sem	\$5,350/sem	5% Annually	2024-25 \$122/3%	
<i>(New Hall North/New Hall South)</i>									
New Halls Single	\$4,656/sem	\$5,502/sem	\$5,777/sem	\$6,066/sem	\$6,369/sem	\$6,688/sem	5% Annually	2024-25 \$136/3%	
<i>(New Hall North/New Hall South)</i>									
Innovation Hall - Traditional Double	Offline	Offline	Offline	\$4,853/sem	\$5,096/sem	\$5,350/sem		Initial	
Innovation Hall - Hotel Style	Offline	Offline	Offline	\$5,484/sem	\$5,758/sem	\$6,046/sem		Initial	
Traditional Housing (Dormitories) Annual Revenue Impact of Fee Change		\$ 729,286	\$ 765,751	\$ 804,038	\$ 1,037,134	\$ 1,088,991			
Tech Village Apartments:									
One Bedroom (Small 528 sq ft) Single**	\$4,687/sem	\$4,921/sem	\$5,167/sem	\$5,426/sem	\$5,697/sem	\$5,982/sem	5% Annually	2024-25 \$137/3%	*Offset of inflationary costs and fund backlog of deferred maintenance projects.
Summer Semester**	\$1,875/sem	\$1,969/sem	\$2,067/sem	\$2,171/sem	\$2,279/sem	\$2,393/sem	5% Annually	2024-25 \$55/3%	
One Bedroom (Large 543 sq ft) Single **	\$4,841/sem	\$5,083/sem	\$5,337/sem	\$5,604/sem	\$5,884/sem	\$6,178/sem	5% Annually	2024-25 \$141/3%	2024-25 \$56/3%
Summer Semester**	\$1,936/sem	\$2,033/sem	\$2,134/sem	\$2,241/sem	\$2,353/sem	\$2,471/sem	5% Annually		
Two Bedroom (Small 572 sq ft) Single**	\$5,222/sem	\$5,483/sem	\$5,757/sem	\$6,045/sem	\$6,347/sem	\$6,665/sem	5% Annually	2024-25 \$152/3%	2024-25 \$61/3%
Summer Semester**	\$2,089/sem	\$2,193/sem	\$2,303/sem	\$2,418/sem	\$2,539/sem	\$2,666/sem	5% Annually		
Two Bedroom (Large 660 sq ft) Single**	\$5,526/sem	\$5,802/sem	\$6,092/sem	\$6,397/sem	\$6,717/sem	\$7,053/sem	5% Annually	2024-25 \$161/3%	2024-25 \$64/3%
Summer Semester**	\$2,210/sem	\$2,321/sem	\$2,437/sem	\$2,558/sem	\$2,686/sem	\$2,821/sem	5% Annually		
Two Bedroom (4 Person Suite 1100 sq ft) Single***	\$6,448/sem	\$6,770/sem	\$7,109/sem	\$7,464/sem	\$7,838/sem	\$8,229/sem	5% Annually	2024-25 \$188/3%	2024-25 \$75/3%
Summer Semester***	\$2,579/sem	\$2,708/sem	\$2,843/sem	\$2,986/sem	\$3,135/sem	\$3,292/sem	5% Annually		

8.2

TENNESSEE TECH UNIVERSITY
PROPOSED Housing FEE CHANGES
2025-26 Through 2029-30

Description	Rates (5 Year Plan)							Prior Fee Increase	Objectives and Considerations
	Current 2024-25	Proposed 2025-26	Proposed 2026-27	Proposed 2027-28	Proposed 2028-29	Proposed 2029-30	%		
Tech Village Annual Revenue Impact of Fee Change		\$ 118,622	\$ 124,553	\$ 130,781	\$ 137,320	\$ 144,186			
Total Housing Annual Revenue Impact of Fee Change		\$ 847,908	\$ 890,304	\$ 934,819	\$ 1,174,454	\$ 1,233,177			

Notes:
** Resident hall full summer rates are equal to summer semester rates x 2.*
*** Tech Village Apartments single rate:
 divided by 2 gives the double rate.*
**** Tech Village Apartments single rate:
 divided by 2 gives the double rate.
 divided by 3 gives the triple rate.
 divided by 4 gives the quad rate.*



Agenda Item Summary

8.3

Date: March 6, 2025

Agenda Item: Disclosed Project

Review

Action

No action required

PRESENTER(S): Dr. Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Review and approval of disclosed project for sound system in Hooper Eblen Center.

Capital Disclosure: FY2024-25

	Governing Board	Institution	Project Name	Project Description	New Sq. Ft.	Funding Source	Project Cost	Funding Source						
								TSSBA	Gifts	Grants	Auxiliary	Gift-in-Place	Plant Funds	Other
1	TTU	TTU	Hooper Eblen Center Sound System Replacement	Replace the sound system in Hooper Eblen Center, including acoustic wall panels and acoustic ceiling elements, and all related work.		Plant Funds	\$ 2,620,000						\$ 2,620,000	



Agenda Item Summary

8.4

Date: March 6, 2025

Agenda Item: Approval of Internal Audit Charter

Review

Action

No action required

PRESENTERS: Amy Wilegus, Chief Audit Executive

PURPOSE & KEY POINTS:

The proposed draft of the Tennessee Tech Internal Audit Charter (IA Charter) is presented to the Audit and Business Committee for review and approval as required by the Tennessee Tech Audit Committee Charter.

The IA Charter was revised to comply with the Institute of Internal Auditors' most recent version of the Global Internal Audit Standards that became effective January 9, 2025. Tennessee state law requires Internal Audit to comply with these standards.

The IA Charter Mapping document and the existing IA Charter were added in Diligent to summarize the changes from the existing IA Charter to the Proposed IA Charter.



Internal Audit

TENNESSEE TECH

Internal Audit Charter

Purpose

The purpose of the Tennessee Tech Internal Audit function is to strengthen the university's ability to create, protect, and sustain value by providing the Audit and Business Committee of the Board of Trustees (Audit and Business Committee) and management with independent, risk-based, and objective assurance, advice, insight, and foresight. The Internal Audit function enhances Tennessee Tech's:

- successful achievement of its objectives,
- governance, risk management, and control processes,
- decision-making and oversight,
- reputation and credibility with its stakeholders, and
- ability to serve the public interest.

Mandate

Tennessee Tech's Internal Audit function mandate is set forth by laws of the State of Tennessee. *The Higher Education Accountability Act of 2004* found in Tennessee Code Annotated § 49-14-102(b) states that "Each audit committee shall employ a person qualified by training and experience to serve as the chief internal auditor...[who] shall report directly to the audit committee and respective board." Additionally, Tenn. Code Ann. § 4-3-304 states that "No...institution...shall cause internal auditing to be performed by persons who do not meet the job specifications for internal auditors.....and (9) ...minimum standards for the performance of audits by the internal audit staffs of ...institutions... or other entities of the state...shall include "Standards for the Professional Practice of Internal Auditing" published by the Institute of Internal Auditors, Inc., or such other standards as may be approved by the comptroller of the treasury."

Independence, Organizational Position, and Reporting Relationships

The Chief Audit Executive (CAE) is positioned at a level within Tennessee Tech that enables internal audit services and responsibilities to be performed without influence from management, thereby establishing the independence of the Internal Audit function.

The CAE reports functionally to the Chair of the Audit and Business Committee and administratively to the President of Tennessee Tech for day-to-day operations. This positioning provides the organizational authority and status to bring matters directly to senior management and escalate matters to the Audit and Business Committee, when necessary, without interference and supports the internal auditors' ability to maintain objectivity.

Authority

The Internal Audit function's authority established by its organizational position and direct reporting relationships allows for unrestricted access to the Audit and Business Committee.

The Audit and Business Committee authorizes the Internal Audit function to:

- have full and unrestricted access to all Tennessee Tech functions, data, records, information, systems, physical property, and personnel pertinent to executing internal audit responsibilities. Internal auditors are accountable for confidentiality and safeguarding records and information.
- allocate resources, set frequencies, select subjects, determine scopes of work, apply techniques, and issue communications to accomplish the function's objectives.
- obtain assistance from the necessary personnel of Tennessee Tech and other specialized services from within or outside the University to complete internal audit services.

8.4

Commitment to Adhering to the Global Internal Audit Standards

Tennessee Tech's Internal Audit function is most effective when performed by competent professionals in conformance with The Institute of Internal Auditors' (IIA) International Professional Practices Framework, which comprise Global Internal Audit Standards™ and Topical Requirements (Standards). Tennessee Tech's Internal Audit function adheres to the mandatory elements of the Standards.

The CAE reports the following at least annually to the Audit and Business Committee and senior management:

- the Internal Audit function's conformance with the Standards, assessed through a quality assurance and improvement program (QAIP);
- positive confirmation of the department's organizational independence or the disclosure of any safeguards needed or implemented to achieve the principle of independence; and
- any interference related to the scope, performance, or communication of internal audit work and results, if applicable.

Changes to the Mandate and Internal Audit Charter

The CAE periodically assesses whether the charter's provisions continue to enable the Internal Audit function to accomplish its objectives. The results of this periodic assessment are communicated to senior management and the Tennessee Tech Audit and Business Committee for review and approval or reaffirmation.

Circumstances that may justify a revision of the internal audit mandate or other aspects of the Internal Audit Charter include but are not limited to:

- a significant change in the Standards,
- a significant reorganization within the organization,
- significant changes in the CAE, the Audit and Business Committee, and/or senior management,
- significant changes to the organization's strategies, objectives, risk profile, or the environment in which the organization operates, or
- new laws or regulations that may affect the nature and/or scope of internal audit services.

Audit and Business Committee Oversight

In accordance with the State of Tennessee Audit Committee Act of 2005 found in Tenn. Code Ann. § 4-35, the Audit and Business Committee has a separate Committee Charter that outlines its responsibilities in relation to the Internal Audit function. Additionally, Tennessee Tech is a public sector organization. Therefore, the Internal Audit function budget is part of the University's overall budget that is dependent on the State of Tennessee budget and is approved by senior management in conjunction with the Board of Trustees. Instead of direct approval, the Audit and Business Committee discusses with the CAE and senior management the appropriate authority, role, responsibilities, scope, and services of the Internal Audit function and ensures adequate resources to allow the Internal Audit function to fulfill its mandate and accomplish its audit plan.

8.4

Chief Audit Executive Roles and Responsibilities

Ethics and Professionalism

The CAE ensures that internal auditors:

- conform with the Standards, including the principles of Ethics and Professionalism: integrity, objectivity, competency, due professional care, and confidentiality,
- understand, respect, meet, and contribute to the legitimate and ethical expectations of the university and recognize conduct that is contrary to those expectations,
- encourage and promote an ethics-based culture in the organization, and
- report organizational behavior that is inconsistent with the organization's ethical expectations, as described in applicable policies and procedures.

Objectivity

The CAE ensures that the Internal Audit function remains free from all conditions that threaten the ability of internal auditors to perform their responsibilities in an unbiased manner, including matters of engagement selection, scope, procedures, frequency, timing, and communication. If the CAE determines that objectivity may be impaired in fact or appearance, the details of the impairment are disclosed to appropriate parties.

Internal auditors maintain an unbiased mental attitude that allows them to perform engagements objectively such that they believe in their work product, do not compromise quality, and do not subordinate their judgment on audit matters to others, either in fact or appearance. Internal auditors have no direct operational responsibility or authority over any of the activities they review.

Accordingly, internal auditors do not implement internal controls, develop procedures, install systems, or engage in other activities that may impair their judgment, including:

- assessing specific operations for which they had responsibility within the previous year,
- performing operational duties for Tennessee Tech or its affiliates,
- initiating or approving transactions external to the Internal Audit function; or

- directing the activities of any Tennessee Tech employee that is not employed by the Internal Audit function, except to the extent that such employees have been appropriately assigned to internal audit teams or to assist internal auditors.

Internal auditors:

- disclose impairments of independence or objectivity, in fact or appearance, at least annually to the CAE, who reports these disclosures to the Audit and Business Committee, management, or others as deemed necessary,
- exhibit professional objectivity in gathering, evaluating, and communicating information,
- make balanced assessments of available and relevant facts and circumstances, and
- take necessary precautions to avoid conflicts of interest, bias, and undue influence.

8.4

Managing the Internal Audit Function

The CAE has the responsibility to:

- at least annually, develop a risk-based internal audit plan that considers the input of the Audit and Business Committee and senior management. Discuss the plan with the Audit and Business Committee and senior management and submit the plan to the Audit and Business Committee for review and approval.
- communicate the impact of resource limitations on the internal audit plan to the Audit and Business Committee and senior management.
- review and adjust the internal audit plan, as necessary, in response to changes in Tennessee Tech’s business, risks, operations, programs, systems, and controls.
- communicate with the Audit and Business Committee and senior management if there are significant interim changes to the internal audit plan.
- communicate the results of internal audit services to the Audit and Business Committee, senior management, and the state comptroller’s office or others as may be required. Follow up on engagement findings and confirm the implementation of recommendations or action plans as appropriate.
- ensure the Internal Audit function collectively possesses or obtains the knowledge, skills, and other competencies and qualifications needed to meet the requirements of the Standards and fulfill the internal audit mandate.
- identify and consider trends and emerging issues that could impact Tennessee Tech and communicate to the Audit and Business Committee and senior management as appropriate.
- consider emerging trends and successful practices in internal auditing.
- establish and ensure adherence to methodologies designed to guide the Internal Audit function.
- ensure adherence to Tennessee Tech’s relevant policies and procedures unless such policies and procedures conflict with the Internal Audit Charter or the Standards. Any such conflicts will be resolved or documented and communicated to the Audit and Business Committee and senior management.
- coordinate activities and consider relying upon the work of other internal and external providers of assurance and advisory services. If the CAE cannot achieve an appropriate level of coordination, the issue must be communicated to senior management and if necessary escalated to the Audit and Business Committee.

Quality Assurance and Improvement Program (QAIP)

The CAE develops, implements, and maintains a QAIP that covers all aspects of the Internal Audit function. The program includes external and internal assessments of the Internal Audit function's conformance with the Standards, as well as performance measurement to assess the Internal Audit function's progress toward the achievement of its objectives and promotion of continuous improvement. The program also assesses, if applicable, compliance with laws and/or regulations relevant to internal auditing. Also, if applicable, the assessment includes plans to address the Internal Audit function's deficiencies and opportunities for improvement.

Annually, the CAE communicates with the Audit and Business Committee and senior management about the Internal Audit function's QAIP, including the results of internal assessments (ongoing monitoring and periodic self-assessments) and external assessments. External assessments are conducted at least once every five years by a qualified, independent assessor or assessment team from outside Tennessee Tech; qualifications must include at least one assessor holding an active Certified Internal Auditor® credential. Public sector competencies and knowledge as well as knowledge of the Standards are considered when selecting external assessors.

Communication with the Audit and Business Committee and Senior Management

The CAE reports at least annually, and sometimes quarterly, to the Audit and Business Committee and senior management regarding:

- the Internal Audit function's mandate,
- the internal audit plan, performance relative to the plan, and required resources,
- significant revisions to the internal audit plan and resources,
- potential impairments to independence, including relevant disclosures as applicable,
- results from the QAIP, both internal and external when applicable,
- significant risk exposures and control issues, including fraud risks, governance issues, and other areas of focus for the Audit and Business Committee that could interfere with the achievement of Tennessee Tech's strategic objectives,
- results of assurance and advisory services,
- management's responses to risk that the Internal Audit function determines may be unacceptable or acceptance of a risk that is beyond Tennessee Tech's risk appetite or control, such as potential funding restrictions impacting management's ability to respond to risks toward strategic objectives.

Scope and Types of Internal Audit Services

The scope of internal audit services covers the entire breadth of the organization, including all of Tennessee Tech's activities, programs, assets, personnel, and auxiliary operations. The scope of internal audit activities also encompasses but is not limited to objective examinations of evidence to provide independent assurance and advisory services to the Audit and Business Committee and senior management on the adequacy and effectiveness of governance, risk management, and control processes for Tennessee Tech.

The nature and scope of advisory services may be agreed to with the party requesting the service, provided the Internal Audit function does not assume management responsibility. Opportunities for

Internal Audit Charter

improving the efficiency of governance, risk management, and control processes may be identified during advisory engagements and communicated to the appropriate level of management.

Examples of internal audit engagements include, but are not limited to, evaluating or advising whether:

- risks relating to the achievement of Tennessee Tech’s strategic objectives are appropriately identified and managed,
- the actions of Tennessee Tech’s officers, directors, management, employees, and contractors or other relevant parties comply with university policies, procedures, applicable laws, regulations, and/or governance standards,
- the results of operations and programs are consistent with established goals and objectives,
- operations and programs are effective and/or efficient,
- established processes and systems enable compliance with the policies, procedures, laws, and regulations that could significantly impact Tennessee Tech,
- allegations of potential fraud, waste, or abuse are appropriately reviewed and addressed,
- the integrity of information and the means used to identify, measure, analyze, classify, and report such information is reliable,
- resources and assets are economically acquired, efficiently and sustainably used, and/or adequately protected.

[Approved by the Audit and Business Committee on March 6, 2025.]

Internal Audit Charter Mapping Summary March 2025

Current IA Charter	New IA Charter
6 sections	5 sections with 8 subsections
Followed 2017 IIA Standards	Follows 2024 IIA Standards & template

Current IA Charter Sections	Summary of Changes	New IA Charter Sections
1 - Purpose	Shortened and revised with new definition from Domain I of the IIA Standards	1 - Purpose
2 - Authority and Scope	Section split – authority included under new Mandate section and scope covered in last section	2 - Mandate
4 – Organizational Status/Reporting Structure	Combined under new Mandate section 2	<i>Independence, Organizational Position, and Authority</i>
5 – Audit Standards and Ethics	Section 5 split with standards combined under Mandate section 2 & ethics moved to subsection of section 4	<i>Commitment to Adhering to the Standards</i>
6 – Periodic Review of Internal Audit Charter	Combined under new Mandate section 2	<i>Changes to the Mandate and Charter</i>
N/A	New section defining the Audit & Business Committee requirements	3 - Audit and Business Committee Oversight
3 - Responsibility and Role	Slightly revised wording and expanded section	4 - Chief Audit Executive Roles & Responsibilities
	Previously in section 5	<i>Ethics & Professionalism</i>
	Revised wording with more formal requirements	<i>Objectivity</i>
	Revised wording and added new requirements	<i>Managing the Internal Audit Function</i>
	New more periodic and formal reporting requirement	<i>Quality Assurance and Improvement Program</i>
	New more formal and required communication	<i>Communication with the A&B Committee & Senior Management</i>
See above	Types of Internal Audit services previously covered in Purpose section 1 and scope was included in section 2	5 - Scope and Types of Internal Audit Services
Manual Approval Signatures	Approval documented in the Audit & Business Committee meeting minutes.	N/A

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Existing Internal Audit Charter - proposed replacement version included in the materials

Tennessee Tech University

Internal Audit Charter

Purpose

Tennessee Tech Internal Audit is an independent objective assurance and consulting activity designed to add value and improve Tennessee Tech University management systems. Internal Audit helps Tennessee Tech University accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. Internal Audit assists Tennessee Tech University's management in the effective discharge of their duties and responsibilities by evaluating activities, recommending improvements and providing other information designed to promote effective controls.

Assurance services involve the internal auditor's objective assessment of evidence to provide an independent opinion or conclusions regarding an entity, operation, function, process, system, or other subject matter. The nature and scope of the assurance engagement are determined by the internal auditor. There are generally three parties involved in assurance services: (1) the person or group directly involved with the entity, operation, function, process, system, or other subject matter – the process owner, (2) the person or group making the assessment – the internal auditor, and (3) the person or group using the assessment – the user.

Consulting services are advisory in nature, and are generally performed at the specific request of an engagement client. The nature and scope of the consulting engagement are subject to agreement with the engagement client. Consulting services generally involve two parties: (1) the person or group offering the advice – the internal auditor, and (2) the person or group seeking and receiving the advice – the engagement client. When performing consulting services the internal auditor should maintain objectivity and not assume management responsibility.

Tennessee Tech University's management has the primary responsibility for establishing and maintaining a sufficient system of internal controls.

Authority and Scope

Internal Audit's review of operations may include the examination and evaluation of the effectiveness of all aspects of institutional operations at Tennessee Tech University. In the course of its work, Internal Audit has full and complete direct access to all Tennessee Tech University books, electronic and manual records, physical properties, and personnel information relative to the performance of duties and responsibilities. All documents and information given to Internal Audit

Existing Internal Audit Charter - proposed replacement version included in the materials

during their work will be handled in the same prudent manner that Tennessee Tech University expects of the employees normally accountable for them.

Internal Audit has neither direct responsibility for, nor authority over, any of the activities, functions, or tasks it reviews nor shall their review relieve others of their responsibilities. The internal auditors must maintain a high degree of independence and not be assigned duties or engage in any operations or decision making in any activities that they would normally be expected to review or evaluate as part of the normal audit function.

Responsibility and Role

The role of Internal Audit is to assist members of the organization in the effective discharge of their responsibilities. Meaningful internal auditing requires cooperation among Internal Audit, Tennessee Tech University's administration, and the department under audit. In fulfilling their responsibilities, Internal Audit will:

- Comply with auditing standards established by the Institute of Internal Auditors to ensure the effectiveness and quality of the internal audit effort.
- Develop and implement audit plans and programs that respond to both risk and cost effectiveness criteria.
- Review the reliability and integrity of information, and the information technology processes that produce that information.
- Verify compliance with applicable policies, guidelines, laws, and regulations.
- Suggest policies and procedures or improvements to existing policies and procedures where appropriate.
- Provide audit reports that identify internal control issues and make cost-effective recommendations to strengthen control.
- Facilitate the resolution of audit issues with administrators who have the most direct involvement and accountability.
- Review institutional operations (financial and other) on an advisory basis to inform and assist management in the successful execution of their duties.
- Assist with audits or perform certain agreed upon procedures for external parties. External parties include but are not limited to audit offices of federal and state governments and related agencies.
- Review management's risk assessment process and advise management on the reasonableness and propriety of the assessment.
- Promote and evaluate fraud prevention and identification programs and investigate allegations involving fraud, waste, and abuse.
- Demonstrate and promote appropriate ethics and values within the organization.

Existing Internal Audit Charter - proposed replacement version included in the materials

- Communicate activities and information among the board, internal auditors, external auditors and the administration.

Organizational Status/Reporting Structure

The Tennessee Tech Director of Internal Audit reports directly to the Tennessee Tech Audit Committee and is administratively attached to the President’s office. The budget for Internal Audit is approved by the Tennessee Tech Audit Committee.

Audit Standards and Ethics

The Internal Audit function adheres to The Institute of Internal Auditors’ mandatory guidance including the Definition of Internal Auditing, the Code of Ethics, the Core Principles for the Professional Practice of Internal Auditing, and the *International Standards for the Professional Practice of Internal Auditing (Standards)*. This mandatory guidance constitutes principles of the fundamental requirements for the professional practice of internal auditing and for evaluating the effectiveness of the internal audit activity’s performance.

Periodic Review of Internal Audit Charter

This charter will be periodically assessed by the Tennessee Tech Director of Internal Audit to determine whether the purpose, authority, and responsibilities defined in this charter are adequate to enable the internal auditing activity to accomplish its objectives. The results of the periodic assessment will be communicated to senior management and the Tennessee Tech Audit Committee.

Approvals

Approved by:  Date: 6-15-17
Teresa Vanhooser
Chair of the Audit & Business Committee

Approved by:  Date: 6-15-17
Deanna Metts
Director of Internal Audit

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