Quarterly Board Meeting

October 6, 2022
Roaden University Center, Room 282
1:30 p.m.

AGENDA

I. Call to Order

II. Recognition of Students

III. Approval of Minutes of June 23, 2022

IV. President's Report

V. Certification of President's Responsibilities Related to Athletics

VI. Consent Agenda

- A. TTU Policy 511.1 (Fees, Charges, Refunds and Adjustments)
- B. Tenure Upon Appointment Recommendation

VII. Executive Committee Recommendation

- A. President's Compensation

VIII. Academic & Student Affairs Committee Recommendation

- A. New Academic Program Proposal (NAPP) for Bachelor of Science (B.S.) in Music

IX. Audit & Business Committee Recommendations

- A. Master Plan Amendment
- B. Land Acquisition
- C. Capital Budget FY2023-24
- D. Disclosed Project

X. Board Secretary Report

XI. Board of Trustees' meeting dates:

Next Meeting: December 1, 2022

Calendar Year 2023:

March 9

June 22

September 28

November 30

XII. Other Business

XIII. Adjournment

Agenda Item Summary

Date: October 6, 2022

Agenda Item: Recognition of Students

☐ **Review** ☐ **Action** ☒ **No action required**

PRESENTERS: Chair Harper

PURPOSE & KEY POINTS: Four National Merit Finalists will introduce themselves and share their reasons on choosing Tennessee Tech. Chair Harper will present each with a certificate.

Emma Fontenot

Frederick Heerdt

Gunner Schierling

Jackson Taylor

BOARD OF TRUSTEES

June 23, 2022

Roaden University Center, Room 282

MINUTES

Meeting streamed live via link found on this web page:

https://www.tntech.edu/board/meetings/2022-06-23-board-meeting.php

AGENDA ITEM 1 – CALL TO ORDER

The Tennessee Tech Board of Trustees met on June 23, 2022, in Roaden University Center Room 282. Chair Trudy Harper called the meeting to order at 1:33 p.m.

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

Thomas Lynn
Rhedona Rose
Johnny Stites
Teresa Vanhooser
Hannah Willis
Barry Wilmore
Trudy Harper

Dan Allcott, Tom Jones, and Fred Lowery participated remotely and each confirmed that they could simultaneously hear and speak to the Board members, they were the only person present in the location from which they were calling, and they received the board materials in advance of the meeting.

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

AGENDA ITEM 2 – RECOGNITION OF STUDENTS (GOLDWATER SCHOLARSHIP RECIPIENT AND FACULTY ADVISOR)

Chair Harper introduced Braden Copeland, a sophomore studying chemistry and biology with a minor in honors, who recently won the prestigious and highly competitive Goldwater Scholarship. She stated that Braden, only the third Tennessee Tech student to ever receive this scholarship and the first since 1999, would receive up to $7500 for up to two years. Chair Harper stated that the Goldwater scholarship program was designed to foster outstanding students to pursue research careers and was the preeminent undergraduate career of its type in these fields. Chair Harper also stated that Braden was conducting research in the chemistry department with Dr. Andreea Cojocaru**.**

AGENDA ITEM 3 – RECOGNITION OF RETIRING FACULTY MEMBER, PROFESSOR WINSTON MORRIS

Chair Harper stated that Professor Winston Morris was retiring after 55 years. He came to Tennessee Tech as a tuba instructor in 1967 and founded the now world-renowned Tennessee Tech Tuba Ensemble. He taught over 400 tuba students throughout his career. The ensemble appeared eight times at New York's Carnegie Hall, at two World Fairs, at the Spoleto Festival in Charleston, and at the Kennedy Center in Washington, D.C. Chair Harper stated that Professor Morris was an icon and a legend at Tennessee Tech, in the world, and across the globe. A plaque and service pin were presented to Professor Morris.

AGENDA ITEM 4 – APPROVAL OF RESOLUTION FOR PURNA SAGGURTI

Chair Harper stated that Purna Saggurti, who served as an inaugural Tennessee Tech Board of Trustees member from 2016 until 2021, was recently appointed as vice chair for Bank of America. In appreciation for all his service and accomplishments, President Oldham read the resolution prepared for presentation to Mr. Saggurti. There being no further discussion, Mr. Stites moved to adopt the resolution honoring Mr. Saggurti, as read. Ms. Vanhooser seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM 5 – APPROVAL OF MINUTES

Chair Harper asked for approval of the minutes of the March 10, 2022, Tennessee Tech Board of Trustees meeting. Chair Harper asked if there were questions or comments regarding the minutes. There being none, Mr. Jones moved to recommend approval of the March 10, 2022, Board of Trustees minutes. Ms. Vanhooser seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

Chair Harper stated that Tennessee Tech will have a zero increase in tuition and fees next year for all students. She stated that the Board was delighted to have the support of the Tennessee legislature and Governor Lee who understood the importance of meeting the needs of students. At the same time, the State understood the funding required to maintain and improve Tennessee Tech's ability to serve students and provide general support for our effort. Chair Harper also expressed her thanks to Board members for supporting that which was enabled by the State legislature and the Governor.

AGENDA ITEM 6 – PRESIDENT'S REPORT

President Oldham reported that he believed the success of Tennessee Tech could be summed up in one word - relevance. Some examples of relevance pertinent to Tennessee Tech include: 1) Tennessee Tech continued to be the number one public university in Tennessee as ranked in *Best Colleges in America* by *Money* magazine. 2) A near record freshman class - in the 2000 range - is anticipated this fall, while at the same time it is a more diverse freshman class, and academically as strong as any past Tennessee Tech freshman class. 3) Six individuals who each played a major role in Tennessee Tech and in the larger community and world we live in recently passed: Michael Birdwell, a longtime history professor and a tremendous historical scholar; Millard Oakley, a great philanthropist of the Upper Cumberland; Les Winningham, a Tennessee Tech graduate and former member of the Tennessee General Assembly; two former Tennessee Tech ROTC members who later became generals - Carl Steiner, retired four-star Army General, and Lieutenant General Don Rogers; and President Emeritus Angelo Volpe. All were former alums, and in Dr. Angelo Volpe's case, a former Tennessee Tech president. 4) At least 12 alums of Tennessee Tech's ROTC program rose to the level of general in the Army or admiral in the Navy. 5) Tennessee Tech is celebrating Varsity athletics' centennial year this year and also celebrating 50 years of Title IX and women's sports in college athletics. Athletics has been a leader in the development of women's sports in the aftermath of Title IX and the six individuals mentioned previously have been a huge part of that progress. 6) The local impact, the local relevance of the university. The economic impact of Tennessee Tech is extensive: $860 million of annual economic impact on Cookeville and the Upper Cumberland. Tennessee Tech is fortunate to have a great partnership with the City of Cookeville and the Putnam County Chamber of Commerce. Tennessee Tech had over $1.5 billion economic impact for the entire state of Tennessee, creating almost 12,000 jobs across the state.

President Oldham stated that at the 10-year mark of his tenure at Tennessee Tech, he wanted to pause and celebrate Tennessee Tech University's identity, as the number-one public university in Tennessee.

AGENDA ITEM 7 – ELECTION OF STUDENT TRUSTEE

Chair Harper stated that the Student Government Association submitted Savannah Griffin as nominee for student member of the Board of Trustees effective July 1, 2022. She stated that

Savannah is a senior secondary education manager from Seymour, Tennessee and served as SGA Executive Treasurer for 2021-22. Savannah also served as a Student Orientation Assistant, Student Success Coordinator for Flight Path, a Director of the Tennessee Tech Parent Association, and in numerous other roles.

Chair Harper called for a motion to appoint Savannah. Mr. Jones moved to appoint Savannah Griffin as student trustee. Mr. Lowery seconded the motion. With an opportunity for further discussion and there being none, Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM 8 – CONSENT AGENDA

A. NEW ACADEMIC PROGRAM PROPOSAL (NAPP) FOR B.S. IN STUDIO ARTS
B. PRESIDENT EMERITUS CONTRACT
C. TTU POLICY 270 (GENERAL GRADUATE ADMISSION REQUIREMENTS)
D. TTU POLICY 506 (GENERAL AND GROUP TRAVEL POLICIES)
E. TENURE RECOMMENDATIONS

Chair Harper asked if anyone objected to the five proposed items which came from recommendations resulting from the morning committee meetings being placed on the consent agenda and voted on as a group. There being no objection and no further discussion, Chair Harper called for a motion to approve the five proposed items. Ms. Rose moved to approve the Consent Agenda as recommended by committees. Mr. Jones seconded the motion. Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM 9 – EXECUTIVE COMMITTEE RECOMMENDATION – APPROVAL OF PRESIDENT'S NEW CONTRACT

Chair Harper stated that the Executive Committee met earlier today and discussed a new contract for President Oldham. The new contract would put him in contract with Tennessee Tech through June of 2028. Chair Harper stated that she would like to entertain a motion with respect to the contract. Mr. Lynn moved to approve the contract as presented. Mr. Stites seconded the motion. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

AGENDA ITEM 10 – AUDIT & BUSINESS COMMITTEE REPORT AND RECOMMENDATION

A. FY2021-22 ESTIMATED & FY2022-23 PROPOSED BUDGET

Mr. Stites, Chair of the Audit & Business Committee, reported that the first item approved by the Audit & Business Committee was the FY2021-22 estimated and FY2022-23 proposed budget. Mr. Stites moved that the Board approve the two budgets. Ms. Vanhooser

seconded the motion. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

B. FY2022-23 DISCLOSED PROJECTS

Mr. Stites reported that the next item approved by the Audit & Business Committee was the FY 2022-23 disclosed projects. Upon the committee's recommendation, Mr. Stites moved the Board approve the FY2022-23 disclosed projects for pavement repairs and the New Hall North roof replacement. Ms. Vanhooser seconded the motion. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

C. CAPITAL BUDGET FY2023-24

Upon the Audit & Business Committee's recommendation, Mr. Stites moved that the Board approve the FY2023-24 Capital Budget request. Mr. Lynn seconded the motion. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

D. LAND ACQUISITION

Upon the Audit & Business Committee's recommendation, Mr. Stites moved that the Board approve the proposed land acquisition for 520 E. Eleventh Street and 1108 N. Washington Avenue. Because the recommendation came from committee, no second was required. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

E. CRAFT CENTER LEASE

Upon the Audit & Business Committee's recommendation, Mr. Stites moved that the Board approve the proposed lease for the Craft Center with the Department of the Army. Because the recommendation came from committee, no second was required. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

F. DUAL ENROLLMENT TUITION RATE

Upon the Audit & Business Committee's recommendation, Mr. Stites moved that the Board approve the dual enrollment tuition rate of $179.55 per credit hour. Because the recommendation came from committee, no second was required. There being no additional discussion, Mr. Wray called a roll call vote. The motion carried unanimously.

Chair Harper announced that the Board was scheduled to meet again on October 6 and December 1. A virtual information session to learn more about Athletics was scheduled for August 23.

On behalf of the entire Board, Chair Harper thanked Hannah Willis, outgoing student trustee,

for her service and commitment to Tennessee Tech. Hannah was presented a plaque which was created in Braille.

AGENDA ITEM 11 – OTHER BUSINESS - RESOLUTION TO THANK THE GENERAL ASSEMBLY

Mr. Jones moved to approve the creation of a resolution for presentation to the Tennessee General Assembly to thank them for their generosity in recent years with funding for Tennessee Tech. Mr. Lynn seconded the motion. There being no additional discussion, Mr. Wray called a roll call vote. Professor Allcott had already left the meeting but the motion carried unanimously (8-0) by the remaining Trustees.

AGENDA ITEM 12 – ADJOURNMENT

There being no further business, the Tennessee Tech Board of Trustees meeting adjourned at 3:06 p.m.

Approved,

_____

Lee Wray, Secretary

Agenda Item Summary

Date: October 6, 2022

Agenda Item: Certification of President's Responsibilities Related to Athletics

☐ **Review** ☐ **Action** ☒ **No action required**

PRESENTERS: Chair Harper

PURPOSE & KEY POINTS: The Ohio Valley Conference requires the Chair of the Board to attest that the President is responsible for the administration of the athletics program, he has the support of the Board in operating a program of integrity, and he may vote on behalf of the institution on NCAA and OVC matters. The Chair's attestation must also be presented to the Board.

OHIO VALLEY CONFERENCE

Governing Board Certification Form
Academic Year 2022-23

As Chairman of the Governing Board at ____Tennessee Tech University_, I attest that:

1) Responsibility for the administration of the athletics program has been delegated to the Chief Executive Officer of the institution.

2) The Chief Executive Officer has the mandate and support of the board to operate a program of integrity in full compliance with NCAA, OVC, and all other relevant rules and regulations.

3) The Chief Executive Officer, in conjunction with the Director of Athletics and Faculty Athletic Representative, determines how the institutional vote shall be cast on issues of athletics policy presented to the NCAA and the Ohio Valley Conference.

Date Presented to the Governing Board: __October 6, 2022_____

Signed: _____
Trudy Harper
(Chair of the Governing Board)

Please return completed form to:

Beth DeBauche
Commissioner
Ohio Valley Conference
215 Centerview Drive, Suite 115
Brentwood, TN 37027
bdebauche@ovc.org

5.1

Agenda Item Summary

Date: October 6, 2022

Agenda Item: TTU Policy 511.1 (Fees, Charges, Refunds and Adjustments)

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Revision to policy to include residency classifying of military-affiliated students and resulting fee assessment pursuant to new state law T.C.A. § 49-7-1303.

Tennessee Technological University
Policy No. 511.1

5.1

Fees, Charges, Refunds, and Adjustments

Effective Date: July 1, 2017

Policy No: 511.1
Policy Name: Fees, Charges, Refunds, and Adjustments
Revised Date: July 1, 2020, April 8, 2022

5.1

I. Purpose

The purpose of the following guideline is to outline significant provisions for consistent administration of fees, charges, and refunds at Tennessee Tech. These policies largely represent a consolidation of existing statements and practices. They are intended to serve as a reference document for institutional staff responsible for implementing and communicating fee-related matters. The policy contents include general and specific provisions for: Maintenance Fees, out-of-state tuition, debt service fees, student activity, miscellaneous and incidental fees, deposits, residence hall fees, and refunds.

II. Review

This policy will be reviewed every four years or whenever circumstances require review, whichever is earlier, by the Director of Financial Services in consultation with the Associate Vice President for Business and Fiscal Affairs and the Vice President for Planning and Finance, with recommendations for revision presented to the Administrative Council, University Assembly, and the Board of Trustees.

III. Definitions

A. Maintenance Fees: a charge to students enrolled in credit courses calculated based on the number of student credit hours, also known as in-state tuition

B. Mandatory Fees: fees consistently applied to all students regardless of major or class selection

C. Withdrawal: the formal process whereby a student informs Tennessee Tech of the decision to cease attendance in all classes for the term

D. LGIs: Locally Governed Institutions is the term used to refer to the six universities previously under the Tennessee Board of Regents that now have local governing boards after passage of the FOCUS Act including Austin Peay State University, East Tennessee State University, Middle Tennessee State University, Tennessee State University, University of Memphis, and Tennessee Tech

E. Save Your Seat: the program whereby students who have not sufficiently paid their fees can retain their schedule by acknowledging during pre-registration that they will attend the current semester

F. Domestic Student: any non-resident student as defined by Tennessee Tech Policy 253, Residency Classification, who is a United States citizen

G. International Student: any non-resident student as defined by Tennessee Tech Policy 253, Residency Classification, who is not a United States citizen

H. Military-affiliated: active-duty military personnel, reservists, members of the national guard, and reserve officer training corps program cadets.

IV. Policy/Procedure

A. Establishment of fees and charges

1. The Tennessee Tech Board of Trustees must approve all institutional fees and charges unless specific exceptions are provided.

2. The Tennessee Higher Education Commission (THEC) Pursuant to T.C.A § 49-7-202(n) provides binding Maintenance Fee ranges for Tennessee Tech each year during the budgeting process. The binding ranges apply to resident, undergraduate students on the Maintenance Fee rate, as well as the sum total maintenance and Mandatory Fee changes. Rates locally approved must abide by these ranges. THEC will not issue binding recommendations on graduate, out-of-state tuition, or other fee rates.

3. The Tennessee Tech President is responsible for the enforcement and collection of all fees and charges. Fees and charges that specifically do not require Board of Trustee approval must receive formal approval by the President or his/her designee.

4. Tennessee Tech will attempt to follow a general format in publishing information on fees and charges, including, but not limited to, the following:

a. All statements which include the fee amount should be complete and specific enough to prevent misunderstanding by readers.

b. When a fee is quoted, the refund procedures should be clearly stated including all qualifying conditions. If there is no refund, it should be labeled as non-refundable.

c. Whenever possible, specific dates related to the payment of fees and refund procedures should be stated.

d. It should be made clear that all fees are subject to change at any time.

B. Approval of exceptions

1. In accordance with these guidelines, the President or his/her designee has the authority to determine the applicability of certain fees, fines, charges, and refunds and to approve exceptions in instances of unusual circumstances or for special groups.

2. All such actions should be properly documented for auditing purposes.

C. Appeals process

1. The appeals process is detailed in TTU Policy 511.2 (Student Fee Adjustments, Refunds, and Appeals).

2. Separate appeals processes may exist for different types of fees, charges, and refunds.

3. The final appeal may be directed to the Vice President for Planning and Finance.

D. Payment of student fees

1. As provided in the TTU Policy 511 (Payment of Student Fees and Enrollment):

a. An applicant for admission to Tennessee Tech is considered and counted as a student when all assessed fees have been paid, when the initial minimum payment due under the deferred payment plan has been paid, or when an acceptable commitment from an agency or organization approved by Tennessee Tech has been received.

b. An applicant shall possess an acceptable commitment when he/she has submitted a timely application(s) for financial aid with the reasonable probability of receiving such.

2. Pursuant to the above conditions, students who do not (1) prepay all fees, (2) have an approved financial aid deferment, or (3) participate in Save Your Seat will forfeit pre-registration privileges and have their schedule deleted prior to the start of classes for the semester. Students may then re-enroll under the normal registration process.

E. Maintenance Fees

1. Fees are established by the Tennessee Tech Board of Trustees.

2. The same fee is applicable to courses for which the student is enrolled on an audit basis.

3. Rates are established by the Tennessee Tech Board of Trustees and incorporated in a fee schedule by student level (undergraduate and graduate).

a. Undergraduate Students

1) Undergraduate students admitted to Tennessee Tech fall 2020 forward will be assessed an hourly rate for hours 1-11 or charged a flat rate once enrolled in at least 12 hours unless stated otherwise elsewhere in this policy

2) Undergraduate students admitted to Tennessee Tech prior to fall 2020 will be assessed an hourly rate for hours 1-12. The hourly rate will be discounted when undergraduate students enroll in more than 12 hours unless stated elsewhere in this policy.

b. Graduate Students

1) The hourly rate will be discounted when graduate students enroll in more than 10 hours unless stated otherwise elsewhere in this policy.

4. For summer sessions, Maintenance Fees and tuition are assessed using the current hourly rate for both undergraduate and graduate students with no maximum amount for total credit hours enrolled.

5. Maintenance Fees may not be waived; however, specific exceptions are provided in the following instances:

a. Pursuant to T.C.A. § 49-7-113, exceptions exist for certain disabled and elderly students, as well as state service retirees.

1) For audit courses, no fee is required for persons with a permanent, total disability, persons 60 years of age or older and domiciled in Tennessee, and persons who have retired from state service with 30 or more years of service, regardless of age.

2) For credit, a fee of $70 per semester may be charged to persons with a permanent, total disability, and persons who will become 65 years of age or older during the academic semester in which they begin classes and who are domiciled in Tennessee. This fee includes all Mandatory Fees; it does not include course-specific fees such as all miscellaneous course fees, materials fees, application fee, online course fees, and parking fees. This only applies to enrollment on a space available basis, which permits registration no earlier than four (4) weeks prior to the first day of classes.

b. Pursuant to T.C.A. § 49-7-102, certain statutory fee exceptions exist for dependents and spouses of military personnel killed, missing in action, or officially declared a prisoner of war while serving honorably as a member of the armed forces during a period of armed conflict. If a student invokes these provisions, the correct applicable law should be determined by the

Business Office and Military and Veteran Affairs.

c. Military reserve and national guard personnel who are mobilized to active military service within six months of attendance at Tennessee Tech and whose mobilization lasts more than six months shall be charged upon re-enrollment at such institution the tuition, Maintenance Fees, student activity fees, and required registration or matriculation fees that were in effect when such student was enrolled prior to mobilization.

1) After re-enrollment, no increase in tuition, Maintenance Fees, student activity fees, or required registration or matriculation fees shall be assessed to such student until a period of time equal to one year plus the combined length of all military mobilizations has elapsed.

2) In no event, however, shall a student's tuition and fees be frozen after re-enrollment for more than four years.

3) To be eligible for the tuition and fee freeze, the student shall have completed military service under honorable conditions and shall re-enroll at Tennessee Tech within six months of release from active duty.

4) A student eligible for the tuition and fee freeze may transfer from one state institution of higher education to another state institution of higher education one time with such student's tuition and fees calculated at the institution to which the student transfers as if the student had been in attendance at that institution before the mobilization that resulted in the student's tuition and fee freeze at the initial institution.

d. Pursuant to T.C. A§ 49-7-1303 and 49-7-1304 Tennessee Tech University may classify a veteran or military-affiliated individual as a Tennessee resident who is not required to pay out-of-state tuition or an out-of-state fee if the veteran or military-affiliated individual is:
1) Enrolled at Tennessee Tech University
2) Resides outside the state of Tennessee

F. Accounting treatment and relations to other state schools

1. A revenue account for Maintenance Fees is used to record both the revenue assessed and refunds made.

2. As provided in the Governmental Accounting Standards Board (GASB) Statements 34 and 35, summer school revenues and expenditures must be accrued at fiscal year-end. Summer school activity will not be allocated to only one fiscal year.

3. In some cases, full fees are not assessed to students. These occur when statutes establish separate rates for such groups as the disabled, elderly, and military dependents. The difference between normal fees and special fees is not assessed. Fees not assessed in these cases do not represent revenue.

4. Agreements/contracts may be executed with a third party (federal agency, corporation, institution, etc.), but not with the individual student, to deliver routine courses at a fixed rate or for the actual cost of delivering the course and may provide for fees not to be charged to individual students. Individual student fees will be assessed as usual and charged to the functional category Scholarships and Fellowships. The amount charged to or paid by the third party is credited to the appropriate Grants and Contracts revenue account.

5. In some cases, a non-credit course provides an option to grant regular credit. If a separate or additional fee is collected because of the credit, that amount is reported as Maintenance Fee revenue.

6. Full-time employees of the Tennessee Board of Regents (TBR), the University of Tennessee systems (UT), and LGIs may enroll in one course per term at any public postsecondary institution, with fees waived for the employee.

7. No tuition-paying student shall be denied enrollment in a course because of enrollment of TBR, UT, and LGI employees.

8. Spouses and dependents of employees of the TBR system and other LGIs may be eligible for a student fee discount for undergraduate courses at TBR institutions, the University of Tennessee, and other LGIs.

9. Tennessee Board of Regents institutions and the LGIs may exchange funds for tuition fees of employees' spouses and dependents who participate in a TBR and LGIs' educational assistance programs.

10. To the extent they are not reimbursed by the State, fee waivers for full-time State employees and fee discounts to children of certified public school teachers shall be accounted for as a scholarship.

G. Out-of-state tuition is an additional fee charged to students classified as non-residents as defined by Tennessee Tech Policy 253, Residency Classification, who are enrolled for credit courses, including audit courses. This fee is in addition to the Maintenance Fee.

1. Out-of-state tuition fee rates are established by the Tennessee Tech Board of Trustees and are incorporated in the annual fee schedule by student level

a. A separate hourly rate and/or flat rate for out-of-state tuition will be set for undergraduate and graduate students.

b. Domestic Students

1) Undergraduate students will be assessed an hourly rate for hours 1-11 or charged a flat rate once enrolled in at least 12 hours.

2) Graduate students will be assessed an hourly rate for hours 1-9 or charged a flat rate once enrolled in at least 10 hours

c. International Students

1) The hourly rate will be discounted when undergraduate students enroll in more than 12 hours.

2) The hourly rate will be discounted when graduate students enroll in more than 10 hours.

3) For summer sessions, out-of-state tuition fees are assessed using the current hourly rate with no maximum amount for total credit hours enrolled.

2. Applicability of out-of-state tuition is determined pursuant to Tennessee Tech Policy 253, Residency Classification, governing a student's in-state and out-of-state classification for admission purposes. The business office will collect fees based upon student classification as determined by the appropriate authority within the institution.

3. Accounting treatment

a. A revenue account for out-of-state tuition is used for recording both credits for fees and debits for refunds.

b. Other accounting is the same for out-of-state tuition as that outlined under Maintenance Fees except that separate out-of-state accounts are used.

c. In the case of fees not collected from students under grants and contracts, the same expense account under Scholarships and Fellowships may be used.

H. Program Service Fee

1. Debt service fees

a. The amount of debt service fees will be approved by the Tennessee Tech Board of Trustees.

b. For simplicity of administration and communication, Tennessee Tech may combine debt service with Mandatory Fees in quoting fee rates, in fee billings and charges, and in making refunds.

c. Revenue from debt service fees will be recorded in the unrestricted current fund and then transferred to the retirement of indebtedness fund as either a mandatory transfer or a non-mandatory transfer. The portion of debt service fee revenue used for current-year debt service will be reported as a mandatory transfer. Any additional debt service fee revenue will be transferred to the retirement of indebtedness fund as a non-mandatory transfer.

d. At the conclusion of the debt retirement for a given project, the debt service fee attributed to the project will cease. Any new project requires the approval of a new debt service fee on its own merits without the reallocation of any existing fee. Any continuation of fees necessary for renewal and replacement of a project for which the debt is totally retired must be approved for that purpose by the Tennessee Tech Board of Trustees.

2. Student Activity Fees

a. A student government activity fee may be established pursuant to T.C.A. § 49-8-109. Any increase in this fee shall be subject to a referendum for student body approval or rejection. These fees will be restricted current funds additions. These fees are refundable on the same basis as Maintenance Fees or as established by Tennessee Tech Board of Trustees.
b. Student activity fees (other than student government activity fees) will be approved by the Tennessee Tech Board of Trustees. Such fees may be recommended based on services to be provided which are related to the activity fee. These fees will be unrestricted current funds revenues. These fees are refundable on the same basis as Maintenance Fees or as established by the Tennessee Tech Board of Trustees.

3. Technology Access Fees (TAF)

a. A fee shall be levied by Tennessee Tech for the purpose of providing student access to computing and similar technologies.

b. TAF is refundable on the same basis as Maintenance Fees.

c. Tennessee Tech shall establish expenditure accounts and designated revenue accounts for purposes of recording technology access fees and expenditures.

d. The TAF should be used by Tennessee Tech for direct student benefit, for items such as new and improved high technology laboratories and classrooms, appropriate network and software, computer and other equipment, and technological improvements that enhance instruction. Examples of TAF use include the following items:

1) Computers and other technical laboratory supplies, equipment, and software and maintenance.

2) Network costs (WWW internet, interactive video, etc.)

3) "Smart" or multimedia classroom equipment and classroom modifications.

4) Lab and course staffing - student and staff assistance for lab and classroom uses.

5) Renewal and replacement reserves as necessary.

6) New machines for faculty use when faculty are actively engaged in developing and conducting on-line courses.

7) Faculty and staff development directly related to the introduction or application of new technology that impacts students. These guidelines should have the flexibility to place instructional technology in a faculty lab where course materials are being prepared. For example, TAF funds can be used to create faculty labs to include the purchase of computers and to conduct faculty training and course development. (Travel costs for faculty and staff are excluded; however, consultants may be hired as needed for training.)

8) Infrastructure (wiring, network, servers, etc.) necessary to provide students maximum computing capability. A ceiling is established of 50% of the total project costs from which TAF can be used.

9) Expand technology resources in library, i.e., video piped anywhere on campus, interactive video room for distance education, network for web video courses.

4. Facilities Fee

This fee will be used to improve facilities and fund expenditures such as replacing carpets in student lounges, remodeling classrooms, etc. The fee will not be used for routine maintenance, but will be used to make improvements to areas that have an impact on students. The intended projects will be disclosed during the normal budget cycles. The fee is refundable on the same basis as Maintenance Fees.

I. Specialized academic fees

1. Certain academic programs require expensive maintenance/updating of equipment and software and the employment of highly qualified staff. The high costs of instruction for these programs can be offset by establishing specialized academic fees, with the Tennessee Tech Board of Trustees approval.

2. To receive approval for a specialized academic fee, a program will be required to meet criteria a., High Cost of Instruction, as defined below. Additionally, the program should document meeting criteria b - g., as applicable.

a. High Cost of Instruction. Programs qualifying for charging specialized academic fees must demonstrate that they are more costly than other programs offered by Tennessee Tech. If appropriate, the extraordinary cost of the program must be validated including benchmarking with similar programs in the region and nation.

b. High Demand. The number of students enrolled in the program and the student credit hours generated are sufficient to justify additional fees.

c. High Cost of Updating/Maintaining Equipment and Software. Programs qualifying for charging specialized academic fees are expected to be those that require extensive maintenance and regular updating of equipment and/or software. An average hardware/software cost per student credit hour serves as the basis for determining the amount of the fee.

d. Accreditation. Meeting standards of specific accrediting agencies may also qualify a specialized program for charging specialized academic fees. The accrediting standards that justify a fee are those that specify the possession and use of certain equipment and unique software that are extraordinarily costly and/or the employment of faculty with specific credentials that demand high salaries.

e. High Recognition and Quality. The programs approved for specialized academic fees are expected to be distinctive and with a regional or

national reputation. The program must demonstrate that it has achieved exceptional recognition in its particular enterprise.

f. High Value to Tennessee. The program must demonstrate that it is a good investment for the State of Tennessee to justify charging extra fees to the student. The graduates' earning potential and the associated benefit to the state economy should be projected, as well as the efforts taken by the institution to aid graduates in finding appropriate employment in Tennessee.

g. Impact on Affected Students. Through surveys, questionnaires, or other suitable means, the program must demonstrate that the charging of additional fees will not diminish enrollment. The program should demonstrate that enrolled students realize that the potential earning power in the work force justifies their additional investment.

3. Tennessee Tech's Colleges and Schools must submit documentation of the above applicable criteria when requesting approval of a specialized academic fee. Specialized academic course fee revenues are limited to funding related costs accumulated in the instruction function.

J. All miscellaneous fees must be approved by the Tennessee Tech Board of Trustees. Fees for courses requiring special off-campus facilities or services do not require Board approval but should reflect the cost of the facilities or services.

K. Incidental fees and charges are subject to approval by the Tennessee Tech Board of Trustees including:

1. Application fees: undergraduate $25.00, graduate $30.00, international $40.00.

2. Returned check fees: Tennessee Tech will charge a nonrefundable returned check fee that is the maximum set by state law. This fee will apply to all returned checks received by the institution, whether from students, faculty, staff, or other parties. The university will review state statutes each spring to determine any changes.

3. Parking: A nonrefundable fee may be levied per academic year, per fiscal year and/or per academic term for motor vehicle registration, and such fee shall be applicable to each student, faculty and staff member.

4. Traffic fines: These nonrefundable fines apply to all employees and students.

5. Applied music fees: These fees are charged for private music lessons or small group training sessions and are refundable on the same basis as Maintenance Fees.

6. Late registration fee: Up to $100 will be charged during the entire period of late registration.

L. The following fees and charges may be approved by the Vice President for Planning & Finance and the President and established and administered by Tennessee Tech. No specific approval or notification to the Tennessee Tech Board of Trustees will be required unless subject to other Board or State requirements.

1. Sales of goods and services of a commercial nature, including bookstores, food services, vending, laundry, and similar activities.

2. Rental of non-student housing and facilities.

3. Admissions fees to athletic and other events open to the public, including special events sponsored by campus organizations and activities.

4. Sales and services of educational activities such as clinical services, publications, etc.

5. Registration for conferences, institutes, and non-credit activities.

6. Fees for use of campus facilities for recreational purposes.

7. Parking permits and parking meters for use by guests and visitors.

8. Nonrefundable library fines, which will apply to students, faculty, staff, and other library users.

9. Nonrefundable thesis and dissertation fees determined based upon cost to the institution.

10. Child care fees for kindergarten, preschool, early childhood, day care, or similarly defined activities. The refund policy will be established by Tennessee Tech.

11. Nonrefundable special exam fee determined based upon cost to Tennessee Tech.

12. Nonrefundable standardized test fees determined based upon the cost for administering the tests.

13. Nonrefundable identification card replacement. There will be no charge for the original identification card. A fee may be set by Tennessee Tech to offset

the cost of replacing the card. This fee applies only to student ID cards and not to faculty and staff ID's.

14. Replacement of damaged or lost Tennessee Tech property and equipment. Fee must be based on reasonable cost to replace.

M. Deposits

1. Breakage deposits may be recommended by Tennessee Tech for Board approval for courses in which it can be shown that there is a reasonable chance of loss or damage to items issued to students. The amount of the deposit should be related to the materials issued and subject to a 100% refund.

2. A deposit may be established by Tennessee Tech for rent or lease of buildings and facilities or for the issuance of other institutional property or equipment. Deposits should be subject to a 100% refund if no damage or loss occurs. The amount of such deposits should be related to the value of the facilities or equipment subject to loss and the general ability of the institution to secure reimbursement should loss or damage occur.

3. Tennessee Tech is authorized to require a security deposit for residence hall facilities which may be forfeited by the student for failure to enter into a residence agreement or non-compliance with applicable agreement terms.

N. Student residence hall and apartments

1. All regular and special rental rates for student dormitories and student apartments will be approved by the Tennessee Tech Board of Trustees upon the recommendation by the President. Special rates for non-student groups during summer periods may be approved by the Vice President for Planning and Finance and the President.

2. Rental for student dormitory or residence hall units shall be payable in full in advance of the beginning of a term. However, Tennessee Tech shall offer an optional payment plan under which a prorated amount of the rental shall be payable monthly in advance during the term. A monthly service charge and a late payment charge may be assessed. Residence Hall students can participate in the deferred payment plan (TTU Policy 511.3 Deferred Payment Plan).

O. Tennessee Tech may submit for Board of Trustee approval of fees and charges not specifically covered by this policy.

P. Fees may be established to control the utilization of facilities and services or to offset the cost of extraordinary requirements as a result of specific programs or activities.

Q. When fees and charges are incorporated in agreements with outside contractors and vendors, specific rates, refunds, and conditions must be clearly stated.

R. Fees for auxiliary services must take into consideration that Auxiliary Enterprises should be at least a break-even operation with rates and charges generating revenue sufficient to cover all expenses as defined in operating budget guidelines.

S. Fees established for non-credit courses and activities shall be sufficient to cover the total costs incurred in providing the program, including any indirect costs, plus a minimum of 25% of the annual instructional salary costs including contractual salary costs or personal services contracts.

T. Students enrolled for six or more hours are eligible for full-time privileges, i.e., access to social, athletic, and cultural functions, pursuant to T.C.A. § 49-8-109.

U. Refunds and fee adjustments

1. Adjustments to all fees and charges must be in accordance with the following provisions except as previously stated, or when required by federal law or regulation to be otherwise.

2. Pursuant to T.C.A. §§ 49-7-2301 and 49-7-2302, students called to active military or National Guard service during the semester are entitled to a 100% adjustment or credit of Mandatory Fees. Housing and meal ticket charges may be prorated based on usage.

3. Maintenance Fee refunds and adjustments

a. Refunds are 100% for courses canceled by Tennessee Tech.

b. Changes in courses involving the adding and dropping of equal numbers of SCH's for the same term at the same time require no refund or assessment of additional Maintenance Fees, unless the dropping and adding involves TN eCampus courses.

c. The fee adjustment for Withdrawals or drops during regular terms (fall and spring) is 75% from the first day of classes through the fourteenth calendar day of classes and then reduced to 25% for a period of time which extends 25% of the length of the term. When the first day of the academic term falls on a Saturday, the 100% refund period is extended through the weekend until the following Monday morning (12:01 am). There is no fee adjustment after the 25% period ends. Dropping or withdrawing from classes during either the 75% or the 25% fee

adjustment period will result in a fee adjustment of assessed Maintenance Fees based on the total credit hours of the final student enrollment.

d. For summer sessions and other short terms, the 75% fee adjustment period and the 25% fee adjustment period will extend a length of time which is the same proportion of the term as the 75% and 25% periods are of the regular terms.

e. All fee adjustment periods will be rounded to whole days and the date on which each fee adjustment period ends will be included in publications. In calculating the 75% period for other than the fall and spring and in calculating the 25% length of term in all cases, the number of calendar days during the term will be considered. When the calculation produces a fractional day, rounding will be up or down to the nearest whole day.

f. A full refund (100%) is provided on behalf of a student whose death occurs during the term. Any indebtedness should be offset against the refund.

g. A 100% refund will be provided for students who enroll under an advance registration system but who drop a course or courses prior to the beginning of the first day of class.

h. A 100% refund will be provided to students who are compelled by Tennessee Tech to withdraw when it is determined that through Tennessee Tech error they were academically ineligible for enrollment or were not properly admitted to enroll for the course(s) being dropped. An appropriate official must certify in writing that this provision is applicable in each case.

i. When courses are included in a regular term's registration process for administrative convenience, but the course does not begin until later in the term, the 75%/25% fee adjustment periods will be based on the particular course's beginning and ending dates. This provision does not apply to classes during the fall or spring terms which may meet only once per week. Those courses will follow the same refund dates as other regular courses for the term.

j. The fee adjustment is calculated as the difference between (1) the per credit hour cost of originally enrolled hours and (2) the per credit hour cost of the courses at final enrollment after adjustments have been applied for all courses dropped. Adjustments are calculated at the full per credit hour rate less the fee adjustment credit at the applicable fee adjustment percentage (regardless of the original number of hours enrolled). Not all drops/Withdrawals will result in fee adjustments.

4. The fee adjustment provision for out-of-state tuition is the same as that for Maintenance Fees. The 75% fee adjustment period and the 25% fee adjustment period will follow the same dates as the fee adjustment periods for Maintenance Fees. When 100% of Maintenance Fees are refunded, 100% of out-of-state tuition also is refunded. Calculation procedures are the same as those specified for Maintenance Fees.

5. Program Service Fee will be subject to the same refund policy as Maintenance Fees.

6. Refund of residence hall rent after registration will be prorated on a weekly calendar basis when the student is forced to withdraw from the residence hall:

a. Because of personal medical reasons confirmed in writing by a licensed physician, or

b. Full refund will be made in the case of the death of the student.

c. Withdrawals for other reasons will be subject to the same 75%/25% amounts and time periods as Maintenance Fees.

d. No refund will be made other than under the above conditions.

7. Residence hall reservations and any deposits will be refunded in full if:

a. Tennessee Tech is notified by a specific date which it establishes, but which may not be later than fourteen (14) calendar days prior to the first official day of registration,

b. The student is prevented from entering Tennessee Tech because of medical reasons confirmed in writing by a licensed physician, or

c. Residence hall space is not available.

d. Full refund will be made in the case of the death of the student.

8. The Tennessee Tech meal plan refund policy is described in Policy 511.2 (Student Fee Adjustments, Refunds, and Appeals).

V. Interpretation

The Vice President for Planning and Finance or his/her designee has the final authority to interpret the terms of this policy.

VI. Citation for Authority for Policy

T.C.A. § 49-8-113; T.C.A. § 49-8-201(f)(8)(C); TBR Guideline B-060; TBR Rule 0240-1-2.01 et seq.; T.C.A § 49-7-2301; T.C.A § 49-7-2302; T.C.A §49-7-1303; T.C.A. § 49-7-1304

Approved by:

Administrative Council: February 22, 2017

University Assembly: April 19, 2017

Board of Trustees: March 23, 2017; September 29, 2020

President on September 3, 2020 and September 21,2020, pursuant to Policy 101, Section VII.A.

Received by:

Administrative Council: September 30, 2020

University Assembly: November 18, 2020

Tennessee Technological University
Policy No. 511.1

Fees, Charges, Refunds, and Adjustments

Effective Date: July 1, 2017

Policy No: 511.1
Policy Name: Fees, Charges, Refunds, and Adjustments
Revised Date: July 1, 2020, April 8, 2022

I. Purpose

The purpose of the following guideline is to outline significant provisions for consistent administration of fees, charges, and refunds at Tennessee Tech. These policies largely represent a consolidation of existing statements and practices. They are intended to serve as a reference document for institutional staff responsible for implementing and communicating fee-related matters. The policy contents include general and specific provisions for: Maintenance Fees, out-of-state tuition, debt service fees, student activity, miscellaneous and incidental fees, deposits, residence hall fees, and refunds.

II. Review

This policy will be reviewed every four years or whenever circumstances require review, whichever is earlier, by the Director of Financial Services in consultation with the Associate Vice President for Business and Fiscal Affairs and the Vice President for Planning and Finance, with recommendations for revision presented to the Administrative Council, University Assembly, and the Board of Trustees.

III. Definitions

A. Maintenance Fees: a charge to students enrolled in credit courses calculated based on the number of student credit hours, also known as in-state tuition

B. Mandatory Fees: fees consistently applied to all students regardless of major or class selection

C. Withdrawal: the formal process whereby a student informs Tennessee Tech of the decision to cease attendance in all classes for the term

D. LGIs: Locally Governed Institutions is the term used to refer to the six universities previously under the Tennessee Board of Regents that now have local governing boards after passage of the FOCUS Act including Austin Peay State University, East Tennessee State University, Middle Tennessee State University, Tennessee State University, University of Memphis, and Tennessee Tech

E. Save Your Seat: the program whereby students who have not sufficiently paid their fees can retain their schedule by acknowledging during pre-registration that they will attend the current semester

F. Domestic Student: any non-resident student as defined by Tennessee Tech Policy 253, Residency Classification, who is a United States citizen

G. International Student: any non-resident student as defined by Tennessee Tech Policy 253, Residency Classification, who is not a United States citizen

H. Military-affiliated: active-duty military personnel, reservists, members of the national guard, and reserve officer training corps program cadets.

IV. Policy/Procedure

A. Establishment of fees and charges

1. The Tennessee Tech Board of Trustees must approve all institutional fees and charges unless specific exceptions are provided.

2. The Tennessee Higher Education Commission (THEC) Pursuant to T.C.A § 49-7-202(n) provides binding Maintenance Fee ranges for Tennessee Tech each year during the budgeting process. The binding ranges apply to resident, undergraduate students on the Maintenance Fee rate, as well as the sum total maintenance and Mandatory Fee changes. Rates locally approved must abide by these ranges. THEC will not issue binding recommendations on graduate, out-of-state tuition, or other fee rates.

3. The Tennessee Tech President is responsible for the enforcement and collection of all fees and charges. Fees and charges that specifically do not require Board of Trustee approval must receive formal approval by the President or his/her designee.

4. Tennessee Tech will attempt to follow a general format in publishing information on fees and charges, including, but not limited to, the following:

a. All statements which include the fee amount should be complete and specific enough to prevent misunderstanding by readers.

b. When a fee is quoted, the refund procedures should be clearly stated including all qualifying conditions. If there is no refund, it should be labeled as non-refundable.

c. Whenever possible, specific dates related to the payment of fees and refund procedures should be stated.

d. It should be made clear that all fees are subject to change at any time.

B. Approval of exceptions

1. In accordance with these guidelines, the President or his/her designee has the authority to determine the applicability of certain fees, fines, charges, and refunds and to approve exceptions in instances of unusual circumstances or for special groups.

2. All such actions should be properly documented for auditing purposes.

C. Appeals process

1. The appeals process is detailed in TTU Policy 511.2 (Student Fee Adjustments, Refunds, and Appeals).

2. Separate appeals processes may exist for different types of fees, charges, and refunds.

3. The final appeal may be directed to the Vice President for Planning and Finance.

D. Payment of student fees

1. As provided in the TTU Policy 511 (Payment of Student Fees and Enrollment):

a. An applicant for admission to Tennessee Tech is considered and counted as a student when all assessed fees have been paid, when the initial minimum payment due under the deferred payment plan has been paid, or when an acceptable commitment from an agency or organization approved by Tennessee Tech has been received.

b. An applicant shall possess an acceptable commitment when he/she has submitted a timely application(s) for financial aid with the reasonable probability of receiving such.

2. Pursuant to the above conditions, students who do not (1) prepay all fees, (2) have an approved financial aid deferment, or (3) participate in Save Your Seat will forfeit pre-registration privileges and have their schedule deleted prior to the start of classes for the semester. Students may then re-enroll under the normal registration process.

E. Maintenance Fees

1. Fees are established by the Tennessee Tech Board of Trustees.

2. The same fee is applicable to courses for which the student is enrolled on an audit basis.

3. Rates are established by the Tennessee Tech Board of Trustees and incorporated in a fee schedule by student level (undergraduate and graduate).

a. Undergraduate Students

1) Undergraduate students admitted to Tennessee Tech fall 2020 forward will be assessed an hourly rate for hours 1-11 or charged a flat rate once enrolled in at least 12 hours unless stated otherwise elsewhere in this policy

2) Undergraduate students admitted to Tennessee Tech prior to fall 2020 will be assessed an hourly rate for hours 1-12. The hourly rate will be discounted when undergraduate students enroll in more than 12 hours unless stated elsewhere in this policy.

b. Graduate Students

1) The hourly rate will be discounted when graduate students enroll in more than 10 hours unless stated otherwise elsewhere in this policy.

4. For summer sessions, Maintenance Fees and tuition are assessed using the current hourly rate for both undergraduate and graduate students with no maximum amount for total credit hours enrolled.

5. Maintenance Fees may not be waived; however, specific exceptions are provided in the following instances:

a. Pursuant to T.C.A. § 49-7-113, exceptions exist for certain disabled and elderly students, as well as state service retirees.

1) For audit courses, no fee is required for persons with a permanent, total disability, persons 60 years of age or older and domiciled in Tennessee, and persons who have retired from state service with 30 or more years of service, regardless of age.

2) For credit, a fee of $70 per semester may be charged to persons with a permanent, total disability, and persons who will become 65 years of age or older during the academic semester in which they begin classes and who are domiciled in Tennessee. This fee includes all Mandatory Fees; it does not include course-specific fees such as all miscellaneous course fees, materials fees, application fee, online course fees, and parking fees. This only applies to enrollment on a space available basis, which permits registration no earlier than four (4) weeks prior to the first day of classes.

b. Pursuant to T.C.A. § 49-7-102, certain statutory fee exceptions exist for dependents and spouses of military personnel killed, missing in action, or officially declared a prisoner of war while serving honorably as a member of the armed forces during a period of armed conflict. If a student invokes these provisions, the correct applicable law should be determined by the

Business Office and Military and Veteran Affairs.

c. Military reserve and national guard personnel who are mobilized to active military service within six months of attendance at Tennessee Tech and whose mobilization lasts more than six months shall be charged upon re-enrollment at such institution the tuition, Maintenance Fees, student activity fees, and required registration or matriculation fees that were in effect when such student was enrolled prior to mobilization.

1) After re-enrollment, no increase in tuition, Maintenance Fees, student activity fees, or required registration or matriculation fees shall be assessed to such student until a period of time equal to one year plus the combined length of all military mobilizations has elapsed.

2) In no event, however, shall a student's tuition and fees be frozen after re-enrollment for more than four years.

3) To be eligible for the tuition and fee freeze, the student shall have completed military service under honorable conditions and shall re-enroll at Tennessee Tech within six months of release from active duty.

4) A student eligible for the tuition and fee freeze may transfer from one state institution of higher education to another state institution of higher education one time with such student's tuition and fees calculated at the institution to which the student transfers as if the student had been in attendance at that institution before the mobilization that resulted in the student's tuition and fee freeze at the initial institution.

d. Pursuant to T.C. A§ 49-7-1303 and 49-7-1304 Tennessee Tech University may classify a veteran or military-affiliated individual as a Tennessee resident who is not required to pay out-of-state tuition or an out-of-state fee if the veteran or military-affiliated individual is:
1) Enrolled at Tennessee Tech University
2) Resides outside the state of Tennessee

F. Accounting treatment and relations to other state schools

1. A revenue account for Maintenance Fees is used to record both the revenue assessed and refunds made.

2. As provided in the Governmental Accounting Standards Board (GASB) Statements 34 and 35, summer school revenues and expenditures must be accrued at fiscal year-end. Summer school activity will not be allocated to only one fiscal year.

3. In some cases, full fees are not assessed to students. These occur when statutes establish separate rates for such groups as the disabled, elderly, and military dependents. The difference between normal fees and special fees is not assessed. Fees not assessed in these cases do not represent revenue.

4. Agreements/contracts may be executed with a third party (federal agency, corporation, institution, etc.), but not with the individual student, to deliver routine courses at a fixed rate or for the actual cost of delivering the course and may provide for fees not to be charged to individual students. Individual student fees will be assessed as usual and charged to the functional category Scholarships and Fellowships. The amount charged to or paid by the third party is credited to the appropriate Grants and Contracts revenue account.

5. In some cases, a non-credit course provides an option to grant regular credit. If a separate or additional fee is collected because of the credit, that amount is reported as Maintenance Fee revenue.

6. Full-time employees of the Tennessee Board of Regents (TBR), the University of Tennessee systems (UT), and LGIs may enroll in one course per term at any public postsecondary institution, with fees waived for the employee.

7. No tuition-paying student shall be denied enrollment in a course because of enrollment of TBR, UT, and LGI employees.

8. Spouses and dependents of employees of the TBR system and other LGIs may be eligible for a student fee discount for undergraduate courses at TBR institutions, the University of Tennessee, and other LGIs.

9. Tennessee Board of Regents institutions and the LGIs may exchange funds for tuition fees of employees' spouses and dependents who participate in a TBR and LGIs' educational assistance programs.

10. To the extent they are not reimbursed by the State, fee waivers for full-time State employees and fee discounts to children of certified public school teachers shall be accounted for as a scholarship.

G. Out-of-state tuition is an additional fee charged to students classified as non-residents as defined by Tennessee Tech Policy 253, Residency Classification, who are enrolled for credit courses, including audit courses. This fee is in addition to the Maintenance Fee.

1. Out-of-state tuition fee rates are established by the Tennessee Tech Board of Trustees and are incorporated in the annual fee schedule by student level

a. A separate hourly rate and/or flat rate for out-of-state tuition will be set for undergraduate and graduate students.

b. Domestic Students

1) Undergraduate students will be assessed an hourly rate for hours 1-11 or charged a flat rate once enrolled in at least 12 hours.

2) Graduate students will be assessed an hourly rate for hours 1-9 or charged a flat rate once enrolled in at least 10 hours

c. International Students

1) The hourly rate will be discounted when undergraduate students enroll in more than 12 hours.

2) The hourly rate will be discounted when graduate students enroll in more than 10 hours.

3) For summer sessions, out-of-state tuition fees are assessed using the current hourly rate with no maximum amount for total credit hours enrolled.

2. Applicability of out-of-state tuition is determined pursuant to Tennessee Tech Policy 253, Residency Classification, governing a student's in-state and out-of-state classification for admission purposes. The business office will collect fees based upon student classification as determined by the appropriate authority within the institution.

3. Accounting treatment

a. A revenue account for out-of-state tuition is used for recording both credits for fees and debits for refunds.

b. Other accounting is the same for out-of-state tuition as that outlined under Maintenance Fees except that separate out-of-state accounts are used.

c. In the case of fees not collected from students under grants and contracts, the same expense account under Scholarships and Fellowships may be used.

H. Program Service Fee

1. Debt service fees

a. The amount of debt service fees will be approved by the Tennessee Tech Board of Trustees.

b. For simplicity of administration and communication, Tennessee Tech may combine debt service with Mandatory Fees in quoting fee rates, in fee billings and charges, and in making refunds.

c. Revenue from debt service fees will be recorded in the unrestricted current fund and then transferred to the retirement of indebtedness fund as either a mandatory transfer or a non-mandatory transfer. The portion of debt service fee revenue used for current-year debt service will be reported as a mandatory transfer. Any additional debt service fee revenue will be transferred to the retirement of indebtedness fund as a non-mandatory transfer.

d. At the conclusion of the debt retirement for a given project, the debt service fee attributed to the project will cease. Any new project requires the approval of a new debt service fee on its own merits without the reallocation of any existing fee. Any continuation of fees necessary for renewal and replacement of a project for which the debt is totally retired must be approved for that purpose by the Tennessee Tech Board of Trustees.

2. Student Activity Fees

a. A student government activity fee may be established pursuant to T.C.A. § 49-8-109. Any increase in this fee shall be subject to a referendum for student body approval or rejection. These fees will be restricted current funds additions. These fees are refundable on the same basis as Maintenance Fees or as established by Tennessee Tech Board of Trustees.
b. Student activity fees (other than student government activity fees) will be approved by the Tennessee Tech Board of Trustees. Such fees may be recommended based on services to be provided which are related to the activity fee. These fees will be unrestricted current funds revenues. These fees are refundable on the same basis as Maintenance Fees or as established by the Tennessee Tech Board of Trustees.

3. Technology Access Fees (TAF)

a. A fee shall be levied by Tennessee Tech for the purpose of providing student access to computing and similar technologies.

b. TAF is refundable on the same basis as Maintenance Fees.

c. Tennessee Tech shall establish expenditure accounts and designated revenue accounts for purposes of recording technology access fees and expenditures.

d. The TAF should be used by Tennessee Tech for direct student benefit, for items such as new and improved high technology laboratories and classrooms, appropriate network and software, computer and other equipment, and technological improvements that enhance instruction. Examples of TAF use include the following items:

1) Computers and other technical laboratory supplies, equipment, and software and maintenance.

2) Network costs (WWW internet, interactive video, etc.)

3) "Smart" or multimedia classroom equipment and classroom modifications.

4) Lab and course staffing - student and staff assistance for lab and classroom uses.

5) Renewal and replacement reserves as necessary.

6) New machines for faculty use when faculty are actively engaged in developing and conducting on-line courses.

7) Faculty and staff development directly related to the introduction or application of new technology that impacts students. These guidelines should have the flexibility to place instructional technology in a faculty lab where course materials are being prepared. For example, TAF funds can be used to create faculty labs to include the purchase of computers and to conduct faculty training and course development. (Travel costs for faculty and staff are excluded; however, consultants may be hired as needed for training.)

8) Infrastructure (wiring, network, servers, etc.) necessary to provide students maximum computing capability. A ceiling is established of 50% of the total project costs from which TAF can be used.

9) Expand technology resources in library, i.e., video piped anywhere on campus, interactive video room for distance education, network for web video courses.

4. Facilities Fee

This fee will be used to improve facilities and fund expenditures such as replacing carpets in student lounges, remodeling classrooms, etc. The fee will not be used for routine maintenance, but will be used to make improvements to areas that have an impact on students. The intended projects will be disclosed during the normal budget cycles. The fee is refundable on the same basis as Maintenance Fees.

I. Specialized academic fees

1. Certain academic programs require expensive maintenance/updating of equipment and software and the employment of highly qualified staff. The high costs of instruction for these programs can be offset by establishing specialized academic fees, with the Tennessee Tech Board of Trustees approval.

2. To receive approval for a specialized academic fee, a program will be required to meet criteria a., High Cost of Instruction, as defined below. Additionally, the program should document meeting criteria b - g., as applicable.

a. High Cost of Instruction. Programs qualifying for charging specialized academic fees must demonstrate that they are more costly than other programs offered by Tennessee Tech. If appropriate, the extraordinary cost of the program must be validated including benchmarking with similar programs in the region and nation.

b. High Demand. The number of students enrolled in the program and the student credit hours generated are sufficient to justify additional fees.

c. High Cost of Updating/Maintaining Equipment and Software. Programs qualifying for charging specialized academic fees are expected to be those that require extensive maintenance and regular updating of equipment and/or software. An average hardware/software cost per student credit hour serves as the basis for determining the amount of the fee.

d. Accreditation. Meeting standards of specific accrediting agencies may also qualify a specialized program for charging specialized academic fees. The accrediting standards that justify a fee are those that specify the possession and use of certain equipment and unique software that are extraordinarily costly and/or the employment of faculty with specific credentials that demand high salaries.

e. High Recognition and Quality. The programs approved for specialized academic fees are expected to be distinctive and with a regional or

national reputation. The program must demonstrate that it has achieved exceptional recognition in its particular enterprise.

f. High Value to Tennessee. The program must demonstrate that it is a good investment for the State of Tennessee to justify charging extra fees to the student. The graduates' earning potential and the associated benefit to the state economy should be projected, as well as the efforts taken by the institution to aid graduates in finding appropriate employment in Tennessee.

g. Impact on Affected Students. Through surveys, questionnaires, or other suitable means, the program must demonstrate that the charging of additional fees will not diminish enrollment. The program should demonstrate that enrolled students realize that the potential earning power in the work force justifies their additional investment.

3. Tennessee Tech's Colleges and Schools must submit documentation of the above applicable criteria when requesting approval of a specialized academic fee. Specialized academic course fee revenues are limited to funding related costs accumulated in the instruction function.

J. All miscellaneous fees must be approved by the Tennessee Tech Board of Trustees. Fees for courses requiring special off-campus facilities or services do not require Board approval but should reflect the cost of the facilities or services.

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3. Parking: A nonrefundable fee may be levied per academic year, per fiscal year and/or per academic term for motor vehicle registration, and such fee shall be applicable to each student, faculty and staff member.

4. Traffic fines: These nonrefundable fines apply to all employees and students.

5. Applied music fees: These fees are charged for private music lessons or small group training sessions and are refundable on the same basis as Maintenance Fees.

6. Late registration fee: Up to $100 will be charged during the entire period of late registration.

L. The following fees and charges may be approved by the Vice President for Planning & Finance and the President and established and administered by Tennessee Tech. No specific approval or notification to the Tennessee Tech Board of Trustees will be required unless subject to other Board or State requirements.

1. Sales of goods and services of a commercial nature, including bookstores, food services, vending, laundry, and similar activities.

2. Rental of non-student housing and facilities.

3. Admissions fees to athletic and other events open to the public, including special events sponsored by campus organizations and activities.

4. Sales and services of educational activities such as clinical services, publications, etc.

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13. Nonrefundable identification card replacement. There will be no charge for the original identification card. A fee may be set by Tennessee Tech to offset

the cost of replacing the card. This fee applies only to student ID cards and not to faculty and staff ID's.

14. Replacement of damaged or lost Tennessee Tech property and equipment. Fee must be based on reasonable cost to replace.

M. Deposits

1. Breakage deposits may be recommended by Tennessee Tech for Board approval for courses in which it can be shown that there is a reasonable chance of loss or damage to items issued to students. The amount of the deposit should be related to the materials issued and subject to a 100% refund.

2. A deposit may be established by Tennessee Tech for rent or lease of buildings and facilities or for the issuance of other institutional property or equipment. Deposits should be subject to a 100% refund if no damage or loss occurs. The amount of such deposits should be related to the value of the facilities or equipment subject to loss and the general ability of the institution to secure reimbursement should loss or damage occur.

3. Tennessee Tech is authorized to require a security deposit for residence hall facilities which may be forfeited by the student for failure to enter into a residence agreement or non-compliance with applicable agreement terms.

N. Student residence hall and apartments

1. All regular and special rental rates for student dormitories and student apartments will be approved by the Tennessee Tech Board of Trustees upon the recommendation by the President. Special rates for non-student groups during summer periods may be approved by the Vice President for Planning and Finance and the President.

2. Rental for student dormitory or residence hall units shall be payable in full in advance of the beginning of a term. However, Tennessee Tech shall offer an optional payment plan under which a prorated amount of the rental shall be payable monthly in advance during the term. A monthly service charge and a late payment charge may be assessed. Residence Hall students can participate in the deferred payment plan (TTU Policy 511.3 Deferred Payment Plan).

O. Tennessee Tech may submit for Board of Trustee approval of fees and charges not specifically covered by this policy.

P. Fees may be established to control the utilization of facilities and services or to offset the cost of extraordinary requirements as a result of specific programs or activities.

Q. When fees and charges are incorporated in agreements with outside contractors and vendors, specific rates, refunds, and conditions must be clearly stated.

R. Fees for auxiliary services must take into consideration that Auxiliary Enterprises should be at least a break-even operation with rates and charges generating revenue sufficient to cover all expenses as defined in operating budget guidelines.

S. Fees established for non-credit courses and activities shall be sufficient to cover the total costs incurred in providing the program, including any indirect costs, plus a minimum of 25% of the annual instructional salary costs including contractual salary costs or personal services contracts.

T. Students enrolled for six or more hours are eligible for full-time privileges, i.e., access to social, athletic, and cultural functions, pursuant to T.C.A. § 49-8-109.

U. Refunds and fee adjustments

1. Adjustments to all fees and charges must be in accordance with the following provisions except as previously stated, or when required by federal law or regulation to be otherwise.

2. Pursuant to T.C.A. §§ 49-7-2301 and 49-7-2302, students called to active military or National Guard service during the semester are entitled to a 100% adjustment or credit of Mandatory Fees. Housing and meal ticket charges may be prorated based on usage.

3. Maintenance Fee refunds and adjustments

a. Refunds are 100% for courses canceled by Tennessee Tech.

b. Changes in courses involving the adding and dropping of equal numbers of SCH's for the same term at the same time require no refund or assessment of additional Maintenance Fees, unless the dropping and adding involves TN eCampus courses.

c. The fee adjustment for Withdrawals or drops during regular terms (fall and spring) is 75% from the first day of classes through the fourteenth calendar day of classes and then reduced to 25% for a period of time which extends 25% of the length of the term. When the first day of the academic term falls on a Saturday, the 100% refund period is extended through the weekend until the following Monday morning (12:01 am). There is no fee adjustment after the 25% period ends. Dropping or withdrawing from classes during either the 75% or the 25% fee

adjustment period will result in a fee adjustment of assessed Maintenance Fees based on the total credit hours of the final student enrollment.

d. For summer sessions and other short terms, the 75% fee adjustment period and the 25% fee adjustment period will extend a length of time which is the same proportion of the term as the 75% and 25% periods are of the regular terms.

e. All fee adjustment periods will be rounded to whole days and the date on which each fee adjustment period ends will be included in publications. In calculating the 75% period for other than the fall and spring and in calculating the 25% length of term in all cases, the number of calendar days during the term will be considered. When the calculation produces a fractional day, rounding will be up or down to the nearest whole day.

f. A full refund (100%) is provided on behalf of a student whose death occurs during the term. Any indebtedness should be offset against the refund.

g. A 100% refund will be provided for students who enroll under an advance registration system but who drop a course or courses prior to the beginning of the first day of class.

h. A 100% refund will be provided to students who are compelled by Tennessee Tech to withdraw when it is determined that through Tennessee Tech error they were academically ineligible for enrollment or were not properly admitted to enroll for the course(s) being dropped. An appropriate official must certify in writing that this provision is applicable in each case.

i. When courses are included in a regular term's registration process for administrative convenience, but the course does not begin until later in the term, the 75%/25% fee adjustment periods will be based on the particular course's beginning and ending dates. This provision does not apply to classes during the fall or spring terms which may meet only once per week. Those courses will follow the same refund dates as other regular courses for the term.

j. The fee adjustment is calculated as the difference between (1) the per credit hour cost of originally enrolled hours and (2) the per credit hour cost of the courses at final enrollment after adjustments have been applied for all courses dropped. Adjustments are calculated at the full per credit hour rate less the fee adjustment credit at the applicable fee adjustment percentage (regardless of the original number of hours enrolled). Not all drops/Withdrawals will result in fee adjustments.

4. The fee adjustment provision for out-of-state tuition is the same as that for Maintenance Fees. The 75% fee adjustment period and the 25% fee adjustment period will follow the same dates as the fee adjustment periods for Maintenance Fees. When 100% of Maintenance Fees are refunded, 100% of out-of-state tuition also is refunded. Calculation procedures are the same as those specified for Maintenance Fees.

5. Program Service Fee will be subject to the same refund policy as Maintenance Fees.

6. Refund of residence hall rent after registration will be prorated on a weekly calendar basis when the student is forced to withdraw from the residence hall:

a. Because of personal medical reasons confirmed in writing by a licensed physician, or

b. Full refund will be made in the case of the death of the student.

c. Withdrawals for other reasons will be subject to the same 75%/25% amounts and time periods as Maintenance Fees.

d. No refund will be made other than under the above conditions.

7. Residence hall reservations and any deposits will be refunded in full if:

a. Tennessee Tech is notified by a specific date which it establishes, but which may not be later than fourteen (14) calendar days prior to the first official day of registration,

b. The student is prevented from entering Tennessee Tech because of medical reasons confirmed in writing by a licensed physician, or

c. Residence hall space is not available.

d. Full refund will be made in the case of the death of the student.

8. The Tennessee Tech meal plan refund policy is described in Policy 511.2 (Student Fee Adjustments, Refunds, and Appeals).

V. Interpretation

The Vice President for Planning and Finance or his/her designee has the final authority to interpret the terms of this policy.

VI. Citation for Authority for Policy

T.C.A. § 49-8-113; T.C.A. § 49-8-201(f)(8)(C); TBR Guideline B-060; TBR Rule 0240-1-2.01 et seq.; T.C.A § 49-7-2301; T.C.A § 49-7-2302; T.C.A §49-7-1303; T.C.A. § 49-7-1304

Approved by:

Administrative Council: February 22, 2017

University Assembly: April 19, 2017

Board of Trustees: March 23, 2017; September 29, 2020

President on September 3, 2020 and September 21,2020, pursuant to Policy 101, Section VII.A.

Received by:

Administrative Council: September 30, 2020

University Assembly: November 18, 2020

5.2

Agenda Item Summary

Date: October 6, 2022

Division: Planning and Finance

Agenda Item: Tenure Upon Appointment Recommendation

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Dr. Lori Bruce, Provost

PURPOSE & KEY POINTS:

This tenure recommendation is being presented at the October Board meeting, as Dr. Shaw was hired after the June Board meeting. Dr. Shaw was hired as Director for the School of Agriculture in the College of Agriculture and Human Ecology. All supporting documents are included.

Joey N. Shaw
Curriculum Vitae

Professor of Soil Science
Crop, Soil and Environmental Sciences Department
Auburn University

Table of Contents
J.N. Shaw

1. Academic Appointments

Position	Location	Date
Professor of Soil Science/Pedology	Auburn University	2007-present
Environmental Science Undergraduate Program Coordinator		2014-present
Alumni Professor (5-yr term)		2008-2013
Associate Professor	Auburn University	2003-2007
Assistant Professor	Auburn University	1998-2003

2. Education

Degree	Institution	Subject	Date
Ph.D.	University of Georgia	Soil Science/Pedology	1998
M.S.	University of Maryland	Soil Science/Pedology	1993
B.S.	James Madison University	Biology	1988

3. Professional Experience (Summary)

Professor of Soil Science, Auburn University *1998-present*

- 50:50 Research/Instruction appointment

Research:

- Total Grant Involvement: $8.9M, 157 total grants (52 PI, 105 co-PI)
- Refereed Journal Articles 76; Published Proceedings 54; Published Abstracts 141; Published Experiment Station, Popular Press and Cooperative Extension Publications 43.
- Development and supervision of productive research program with management of budgets and professional research staff, graduate and undergraduate students.
- Extensive interaction with stakeholders including funding agencies, commodity groups, and state and federal agencies.

Instruction:

- Courses taught: Soil Morphology, Genesis, and Classification; Soil Judging; Introductory Environmental Science; Soil Mineralogy; Internship; Senior Seminar.
- Instructor of Natural Resource Conservation Service (USDA-NRCS), Certified Crop Advisor (CCA), Alabama Professional Soil Classifier (APSC), Alabama Crop Management (ACMA), and Alabama Department of Public Health (ADPH) seminars and workshops.
- Chair or co-chair of 18 graduate students and served on 48 graduate student committees (66 total).

Environmental Science (ENVI) Undergraduate Program Coordinator *2014-present*

- ENVI is a university-wide interdisciplinary program contained within the College of Agriculture with faculty involvement from three colleges and four departments.
- Coordinate program activities through leadership of departmental and university committees and provide day to day program leadership.
- Coordinated transition of the ENVI program into our Crop, Soil and Environmental Sciences (CSES) department, developed ENVI student learning outcomes (SLOs) and assessment strategies (received exemplary status by University three times), improved experiential learning opportunities, facilitated development of revised curriculum and new courses, developed faculty hiring proposals.

Supervisor, Soil Characterization (Pedology) Laboratory, University of Georgia *1994-1998*

- Supervised personnel and performed field survey, soil morphological, physical, hydraulic, chemical and mineralogical property analyses, and data management in support of research, the National Cooperative Soil Survey, and other agencies (USDA-ARS, EPA, etc).

Additional Relevant Experience

- Argillan LLC, Consulting Soil Scientist; Auburn AL *2019-present*
- R.S. Fields and Associates, Consulting Soil Scientists; Manassas VA *1988-1991*

4. Honors and Awards

- Elected Chair, Soil Science Society of America Pedology Division – 2015
- Elected Chair, Soil Science Society of America Soil Mineralogy Division – 2004
- Appointed as Associate Editor, Soil Science Society of America (SSSA) Publications:
  - *Soil Science Society of America Journal* – 2005 to 2007
    - Citation of Excellence for Associate Editors – 2007
  - *Soil Survey Horizons* – 1999 to 2001
- Appointed to Editorial Board of *Geoderma* – 2011 to 2017
- Auburn University Student Government Association College of Agriculture Outstanding Faculty Award – 2015 and 2020
- College of Agriculture Dean's Award for Teaching Excellence – 2015
- Auburn University Alumni Association Undergraduate Teaching Excellence Award – 2008
- Agronomy and Soils Department Outstanding Teacher Award – 2002, 2008, 2010 and 2012
- Appointed to Auburn University Alumni Professorship – 2008
- Coached Auburn University Soil Judging team to two National and six Southeastern Regional Collegiate Soil Judging Championships.
- Nominated and coached the United States Soil Judging Team at the International Year of Soils Field Course and Soil Judging Contest at Szent Istvan University, Gödöllő, Hungary (2015). Contestants from 28 countries were in competition. The U.S. won the contest and had the top individual judger.
- Appointed to Advisory Council of State Registration Board for Alabama Professional Soil Classifiers –2000 to 2015
- Served on Auburn University Promotion and Tenure, Faculty Dismissal, Distinguished Professorships, Alumni Professorships, College of Agriculture Promotion and Tenure, advisory member to Agriculture Committee of AU Board of Trustees, Faculty Mentoring (eight), Faculty Search (12), and several other committees. Served as chair of College Promotion and Tenure, faculty search, and faculty mentoring committees.
- Served on USDA-NRCS National Cooperative Soil Survey (NCSS) Advisory Group to the Director of the Soil Survey Division, Steering Committee for the Soil Survey Division Focus Groups, and National Standards, Illustrated Guide to Soil Taxonomy, Southeastern Regional Taxonomy, and several other committees.
- Served on Soil Science Society of America (SSSA) Soil Taxonomy Task Force, Soil Judging, Soil Micromorphology, and Nominations committees.
- President, Auburn University's Gamma Sigma Delta - Honor Society for the College of Agriculture – 2000 to 2002
- American Society of Agronomy (ASA)-Southeastern Branch *Early Career Research Award* – 2002
- Alabama Professional Soil Classifier License #60.
- ARCPAC Certified Professional Soil Scientist.

5. Environmental Science (ENVI) Undergraduate Program Coordinator

In 2014, I was appointed the Environmental Science (ENVI) Undergraduate Program Coordinator. ENVI is an interdisciplinary program housed within the College of Agriculture with faculty involvement from three colleges and several departments. The program currently has approximately 75 undergraduate students. A summary of my activities includes:

- Coordinated and Developed Proposal to move ENVI program into the Department of Crop, Soil and Environmental Sciences (2015-2016).

- Solicited and coordinated input from both departmental and university-wide Environmental Science Faculty.
- Received support from university-wide ENVI committee to transition program.
- Developed and submitted proposal that was approved.

- Developed the Interdisciplinary Environmental Science, B.S., assessment approach and report.
  - Solicited and coordinated input from environmental science faculty.
  - Coordinated, developed and revised program student learning outcomes, curriculum map, common written communication rubric, and exit exam, which serve as foundation of assessment.
  - Developed and submitted annual report.
  - Environmental Science, B.S., assessment received "Exemplary Status" citation by the Office of Assessment in 2018, 2019 and 2020.
- CSES department ENVI committee chair.
  - Coordinate and organize departmental committee meetings to strategize, review and improve program.
  - Developed an ENVI student survey and utilized results for program improvement.
  - Meet with university ENVI committee members on program issues.
  - Coordinated and developed ENVI grant submissions (e.g. Auburn's Academy of Writing, High Impact Practices program 2018).
- Environmental Science *Writing in the Curriculum* Plan.
  - Developed the Environmental Science Program *Writing in the Curriculum* report and coordinated activities (2014-2016).
    - Solicited and coordinated input from Environmental Sciences Faculty.
    - Meetings and correspondence with the Office of University Writing.
    - Report Development.
- ENVI curriculum development.
  - Developed ENVI teaching schedule/commitment.
  - Coordinated development and approval of new ENVI courses.
    - Utilized ENVI survey and other input to strengthen program.
    - Coordinated proposal and approval of Environmental Regulation and Management Application course (ENVI 4000).
  - Proposed, developed, and submitted revisions to improve ENVI curriculum.
  - Reviewed course transfer credit requests, articulations and course substitutions.
  - Reviewed ENVI Professional Track courses (with Liz Smith).
  - Reviewed ENVI curricula for DegreeWorks update/development.
- Instruct Fundamentals of Environmental Science (ENVI 1020) course (fall semesters) (approximately 60 students).
- ENVI student advising and mentoring.
- Other activities (assisting student services advisor Liz Smith).
  - ENVI student visits, inquiries and communications.
  - ENVI program promotional material review.
  - Improve ENVI internship process and program.
    - Worked with College of Agriculture for companies invited to Career Fair (2019).
  - Participated in student recruitment activities including Successfully Orienting Student (SOS), Camp War Eagle, TALONS, and Tiger Friday sessions.
  - ENVI program presentations to Ag Ambassadors, Admissions Advisors, etc.

6. Scholarly Contributions

A. Teaching

1. Courses Developed and Taught
   - 1998-2021:
     - Fundamentals of Environmental Science (2hr) (ENVI 1020)
     - Soil Morphology, Genesis, and Classification (4hr w/lab) (CSES 5150/6150)
     - Soil Judging (2hr) (CSES 4200)
     - Advanced Soil Judging (2hr) (CSES 4210)
     - Soil Mineralogy (4hr w/lab) (CSES 7560)
     - Internship (3hr) (CSES 3920)
     - Senior Seminar (2hr) (CSES 4950)
     - Instructor of approx. 1000 students
   - Instructor of Natural Resource Conservation Service (USDA-NRCS), Certified Crop Advisor (CCA), Alabama Professional Soil Classifier (APSC), Alabama Crop Management (ACMA), and Alabama Department of Public Health (ADPH) seminars and workshops.

2. Graduate Student Advising
   - Ph.D. Chair: 6, Member: 16
   - M.S. or M.Ag. Chair: 12, Member: 32
   - 66 total students

3. Other Courses Developed
   - Participated in Auburn University Biggio Center Course ReDesign. Week of activities developed around Active Learning Concepts (July 9th-13th, 2018).
   - Exercises for Geospatial Applications in Soil Science for Special Topics courses (AGRN 4970).
   - Coordinated, co-developed (with US Space and Rocket Center) and instructed (3hr) workshop on Geospatial Technologies in Agriculture at Alabama Crop Management Association 2001 Summer Meeting. Approximately 20 participants from industry.
   - Coordinated, co-developed (with US Space and Rocket Center) and instructed workshop (2hr) on Geospatial Technologies in Agriculture at Certified Crop Advisor Training, in Auburn, AL (2001). Approximately 20 participants from industry.

Curriculum Development
   - Developed "Soil, Water and Land Use" option in Crop, Soils and Environmental Sciences curriculum (2011).

Soil Judging
Coached Auburn University at these Southeastern Regional Soil Judging Contests (* indicates qualified for National contest):
   - *Virginia Tech (10/6 to 10/9/19) (1st place finish, SE regional champions).
   - *Western Kentucky University (10/14 to 10/18/18) (2nd place).
   - University of Tennessee-Martin (10/8 to 10/12/17).
   - Murray State University (10/11 to 10/15/15).
   - *Clemson University (10/5 to 10/9/14) (1st place finish, SE regional champions)
   - *Tennessee Tech University (10/20 to 10/24/13) (4th place).
   - *University of Kentucky (10/7 to 10/11/12) (1st place finish, SE regional champions)
   - *West Virginia University (10/4 to 10/7/11) (3rd place).
   - *University of Georgia (10/18 to 10/23/10) (4th place).
   - *University of Tennessee (10/19 to 10/23/09) (3rd place).
   - *Virginia Tech (10/20 to 10/24/08) (5th place).

- Eastern Kentucky University (10/15 to 10/19/07).
- *Western Kentucky University (10/16 to 10/20/06) (2nd place).
- *N.C. State University (10/24 to 10/28/05) (1st place finish, SE regional champions)
- *University of Tennessee-Martin (10/20 to 10/24/03) (5th place).
- *Clemson University (10/7 to 10/11/02) (1st place finish, SE regional champions)
- *Murray State University (10/16 to 10/19/01) (1st place finish, SE regional champions)
- *Tennessee Tech University (10/23 to 10/28/00) (5th place).
- University of Kentucky (10/11 to 10/15/99).
- *University of Tennessee (10/15 to 10/18/98) (3rd place).

Coached Auburn University at these National Soil Judging Contests:

- Cal-Poly, San Luis Obispo, CA (4/13 to 4/20/19) (9th place).
- University of Arkansas Monticello (4/18 to 4/24/15) (national championship)**
- Delaware Valley College, Doylestown, PA (3/29 to 4/14/14) (7th place).
- University of Wisconsin, Platteville, Platteville, WI (4/20 to 4/27/13).
- West Virginia University, Morgantown, WV (3/24 to 4/1/12) (7th place).
- Oregon State University, Bend, OR (4/24 to 5/1/11) (2nd place).
- Texas Tech University, Lubbock, TX (3/20 to 3/27/10).
- Utah State University, Logan, UT (4/14 to 4/21/07).
- Cal-Poly, San Luis Obispo, CA (3/18 to 3/25/06).
- Texas A&M University, College Station, TX (3/29 to 4/4/03) (national championship)*
- Univ. of Minnesota, Red Wing, MN (4/20 to 4/27/02).
- University of Arizona, Tucson, AZ (3/21-3/26/99).

*Coached Auburn University Soil Judgers at 43rd Annual National Soil Judging contest held at Texas A&M University (3/29 to 4/4/03). Auburn finished first (against 22 universities), and won National Championship.

Presented with AU Board of Trustee Resolution for National Soil Judging Championship (9/03).

** Coached Auburn University Soil Judgers at 55th Annual National Soil Judging contest held at the University of Arkansas-Monticello (4/18 to 4/24/15). Auburn finished first (against 20 universities), and won National Championship.

Auburn won the contest, finished first in group judging and had the high individual (first time accomplished in 55 years of Soil Judging).

- Invited coach for the United States Soil Judging Team (Team USA) for the International Year of Soils Field Course and Soil Judging Contest in Gödöllő, Hungary, at the Szent Istvan University (8/29 to 9/5/15). Contestants from 28 countries competed in this event. Coached students from Auburn University, Kansas State University, Delaware Valley College and West Virginia University.
  - Team USA finished first in the contest, won the international contest, and had the high individual contestant.
  - Team USA invited by USDA (Washington, D.C.) to meet with officials and participate in International Year of Soils Ceremony (12/2 to 12/4/15).

- Organized and hosted the 2016 Southeastern Regional Soil Judging Contest (10/2/16 to 10/6/16). This contest evaluates the student's ability to describe, classify, and interpret soils. Practice and contest sites established at several locations. A week of activities including a banquet, coaches

meeting, and awards ceremony were developed. Teams from 9 universities throughout the SE region participated in the contest. Approximately 70 students involved in the contest.

- Organized and hosted the 45th Annual National Soil Judging Contest at Auburn the week of April 3rd to 8th (2005). Teams from 22 universities from California to New Hampshire, with approximately 150 students, participated in the contest. Activities included establishing practice sites at 19 locations in Lee, Tallapoosa and Macon County, establishing five contest sites at two locations, organizing a contestant banquet, a coaches meeting, and awards ceremony.

- Organized and hosted the 2004 Southeastern Regional Soil Judging Contest (10/18/04 to 10/22/04). This contest evaluates the student's ability to describe, classify, and interpret soils. Practice and contest sites established at several locations. A week of activities including a banquet, coaches meeting, and awards ceremony were developed. Teams from 12 universities throughout the SE region participated in the contest. Approximately 80 students involved in the contest.

Guest Lectures (AU)

- Several including: AGRI 1000, WILD 1100, AGRN 3040, BSEN 3260, FORY 4230, AGRN 4000, AGRN 1000, ENVI 1010.

Advising

- Undergraduate student advisor (1998-2017) before college transitioned to professional advising in 2017.

Certified Crop Advisor Training

- Invited talk to Certified Crop Advisor Training (12/19/07). Shaw group conducted two (2) sessions, one session on *Soil Survey* (Shaw speaker), one session on *Soil Sampling* (Owen speaker).
- Invited talk to Certified Crop Advisor Training (12/18/02). Shaw group conducted two (2) sessions, one session on *Soil Survey* (Shaw speaker), one session on *Soil Sampling* (Owen speaker).
- Invited talk to Certified Crop Advisor's (CCA) on *Soil & Water relationships* (12/16/99).
- Invited talk to Certified Crop Advisor's (CCA) on *Soil & Water relationships* (12/15/98).

Student Activities

- Mentor for Auburn University Undergraduate Competitive Research Fellow
    - Brooke Johnson, 2019-2020
    - Hunter Stone, 2006-2007
    - Christina van Santen, 2001
- Judge for College of Agriculture Graduate Student Poster Session (10/28/21).
- Invited presentation to High School FFA Land CDE (Judging) workshop at USDA-NRCS (6/27/13).
- Represented Agronomy and Soils Department at College Recruiting visit to Southern Union State Community College (Wadley, AL) (9/11/12). Presented talk to Intro Biology class.
- Faculty supervisor of Agronomy Club speech contest (9/1/09).
- Assisted in student fund raising activities (e.g. corn sale, multiple years).
- Coordinated SSSA Division S-9 graduate student Dixon award selection (2005).
- Co-hosted (with NRCS-Soil Survey) University of Florida student soil tour of central AL (07/07/00).

- Organizer of Graduate Student Poster awards competition at 1999 Southern Branch ASA meetings in Memphis, TN (2/1 and 2/2/99).
- Invited judge by the AU Research Forum Committee of the Graduate Student Council for graduate student presentations at the research forum (5/12/99).
- Represented Agronomy and Soils Department at University Graduation (6/98; 8/4/03, 8/4/12).
- Employed more than 50 undergraduate students in our soil and environmental research program.

B. Research

1. Publications

The author contribution generally decreases from first to last author.

Refereed
(Student of Shaw shown with asterik)

76. Kazaz, B., M. A. Perez, W. N. Donald, X. Fang and J.N. Shaw. Detection of Residual Flocculant Concentrations in Construction Stormwater Runoff. Transportation Res. Record. *In press*

75. Sweeney, L.C., E.A. Brantley, T. Knappenberger, and **J.N. Shaw**. 2021. Zeolite Amended Bioretention Media Improves Nitrogen Removal from Stormwater. Agricultural & Environmental Letters. *In press*

74. LeFevre, O., T. Knappenberger, **J.N. Shaw** and Y. Olshansky. 2021. Camera Illustration of IRIS Reduction Dynamics. Agricultural & Environmental Letters. https://doi.org/10.1002/ael2.20051

73. Bhatta, A., D. Chakraborty, R. Prasad, **J.N. Shaw**, J. Lamba, E. Brantley, A. Torbert. 2021. Mehlich 3 as a Generic Soil Test Extractant for Environmental Phosphorus Risk Assessment across Alabama Soil Regions. Agrosystems, Geosciences & Environment. https://doi.org/10.1002/agg2.20187

72. Stolt, M.H., A.T. O'Geen, D.E. Beaudette, P.J. Drohan, J.M. Galbraith, D.L. Lindbo, H.C. Monger, B.L. Needleman, M.D. Ransom, M.C. Rabenhorst, and **J.N. Shaw**. 2021. Changing the hierarchical placement of soil moisture regimes in Soil Taxonomy. Soil Sci. Soc. Am J. (Accepted)

71. C. Liggett, T. Knappenberger, **J.N. Shaw**, E. Brantley and A. Gamble. 2020. Comparison of Constructed Wetlands to a Preservation Wetland in the Nashville Basin, Tennessee (USA). Wetlands. (Accepted)

70. Poncet, A., T. Knappenberger, C. Brodbeck, M. Fogle, **J. N. Shaw** and B. V. Ortiz. 2019. Multispectral UAS Data Accuracy for Different Radiometric Calibration Methods. Remote Sensing (Accepted)

69. Poncet, A., J.P. Fulton, T.P. McDonald, T. Knappenberger, and **J.N. Shaw.** 2019. Corn Emergence and Yield Response to Row-Unit Depth and Downforce for Varying Field Conditions. Applied Engineering in Agriculture. 35(3): 399-408. (doi: 10.13031/aea.12408)

68. Poncet, A., J.P. Fulton, T.P. McDonald, T. Knappenberger, **J.N. Shaw,** and R.W. Bridges. 2019. Effect of Heterogeneous Field Conditions on Corn Seeding Depth Accuracy and Uniformity. Applied Engineering in Agriculture. 34(5): 819-830. (doi: 10.13031/aea.12238)

67. West, L.T., **J.N. Shaw**, and E. Mersiovosky. 2016. Soils of the Southeastern USA: LRRs O, P, and T. p. 243-260. *In* L.T. West, M.J. Singer, A.E. Hartemink (ed.). The Soils of the USA. Springer. ISBN 978-3-319-41870-4.

66. Turner, I.P., E.F. Brantley, **J.N. Shaw**, and C.J. Anderson. 2015. Floristic Composition of Alabama Piedmont Floodplains across a Gradient of Stream Channel Incision. American Midland Naturalist. 174(2):238-253.

65. Brevik, E.C., S., Abit, D. Brown, H. Dolliver, D. Hopkins, D. Lindbo, A. Manu, M. Mbila, S. Parikh, D. Schulze, **J.N. Shaw**, R. Weil, and D. Weindorf. 2015. Soil Science Education in the United States: History and Current Enrollment Trends. J. Indian Society Soil Sci. 62:299-306.

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3. Despite reductions in exposure, Lead still remains a potential health threat. J.E. Hairston, **J.N. Shaw**, and J.M. Beck. 2000. ACES Timely Information Sheet.
2. General Introduction to GIS. J.E. Hairston, **J.N. Shaw**, and J.M. Beck. 2000. ACES Timely Information Sheet.

1. Antibiotics and other chemicals are showing up below wastewater treatment plants. J.E. Hairston, **J.N. Shaw**, and J.M. Beck. 2000. ACES Timely Information Sheet.

Web Publications

1. Southeast Association of Soil Judging Coaches. 2008. Handbook for American Society of Agronomy Collegiate Soils Contest, Southeastern Region. (Eds.) J.A. Thompson, J.M. Galbraith, and **J.N. Shaw**. Available online at: https://sites.google.com/a/vt.edu/se_region_soil_judging/. [Last Updated: 08-03-18.]
2. Hatch, U., B. Brooks, P.L. Mask and **J.N. Shaw**. 2000. Spatial analysis in agriculture: An overview of precision agriculture. http://srdc.msstate.edu/newsite/publications/223.htm

Theses or Dissertations Directed

16. Platt, J. 2021. Southeastern U.S. Upper Coastal Plain Ecological Sites for Dynamic Soil Property Characterization. M.S. thesis. Auburn Univ., Auburn, AL.

15. May, C. 2019. Groundwater Quality and Physical Setting Evaluation in South Texas Aquifers. M. Ag. Auburn Univ., Auburn, AL.

14. Lane, A. 2018. Compaction Susceptibility of Select Alabama Piedmont and Upper Coastal Plain Ultisols. M.S. thesis. Auburn Univ., Auburn, AL.

13. Croy, A. 2012. Agroecosystem Effects on Carbon Sequestration and Soil Function in Tennessee Valley (Alabama) Paleudults. M.S. thesis. Auburn Univ., Auburn, AL.

12. Cochran, F. 2010. Management-dependent soil variability and surface hydraulic properties of Southeastern U.S. Coastal Plain Plinthic Kandiudults.

11. Gacengo, C. 2008. Agroecosystem management effects on carbon and nitrogen cycling across a Coastal Plain catena.

10. Levi, M. 2007. Management dependent soil properties of cultivated versus non-cultivated Southeastern Coastal Plain ecosystems. M.S. thesis. Auburn Univ., Auburn, AL.

9. Smith, R. 2007. Hydromorphology and plinthite characterization of some Alabama Coastal Plain soils. M.S. thesis. Auburn Univ., Auburn, AL.

8. Causarano, H. 2006. Management and landscape influences on soil carbon in the southeastern Piedmont and Coastal Plain. Ph.D. diss. Auburn Univ., Auburn, AL.

7. White, M. 2005. A multivariate approach for high resolution soil survey development. M.S. thesis. Auburn Univ., Auburn, AL.

6. Terra, J. 2004. Soil management and landscape variability impacts on field-scale cotton and corn productivity. Ph.D. diss. Auburn Univ., Auburn, AL.

5. Fesha, I. 2004. Management-dependent properties and pedotransfer functions for soil map unit characterization. Ph.D. diss. Auburn Univ., Auburn, AL.

4. Sullivan, D. 2003. Remote sensing for quantification of agronomic properties. Ph.D. diss. Auburn Univ., Auburn, AL.

3. Beck, J. 2003. Quantitative and qualitative analysis of highly weathered clays. Ph.D. diss. Auburn Univ., Auburn, AL.

2. Fleming, S. 2002. Using geospatial technologies to relate terrestrial factors to surface water quality. M.S. thesis. Auburn Univ., Auburn, AL.

1. McIlwain, K. 2002. Seasonal high water table indicators and landscape characterization of sandy Coastal Plain soils. M.S. thesis. Auburn Univ., Auburn, AL.

2. Papers or Lectures

Papers at Professional Meetings
Note: List of itemized paper presentations at Society and Professional meetings are shown in Proceedings and Abstracts section of Publications (see above section for titles of presentations).

- Attended and presented at the International Union of Soil Science (IUSS) 21st World Congress of Science (August 12-17th, 2018, Rio De Janiero, Brazil).
- Attended and presented at the International Union of Soil Science (IUSS) 19th World Congress of Science (July 7-17th, 2006, Philadelphia, PA).
- Attended (see abstracts if presented) at American Society of Agronomy (ASA) - Soil Science Society of America (SSSA) meetings in San Antonio, TX (11/10 to 11/13/19), San Diego, CA (1/6 to1/9/19), Tampa, FL (10/22 to 10/25/17), Phoenix, AZ (11/6 to 11/9/16), Long Beach, CA (10/15 to 11/5/14), Tampa, FL (11/3 to 11/6/13), Cincinnati, OH (10/21-10/24/12), San Antonio, TX (10/16 to 10/19/11), Pittsburgh PA (11/1/09-11/4/09), Houston TX (10/5-10/9/08), New Orleans LA (11/4-11/8/07), Salt Lake City UT (11/6-11/10/05), Seattle WA (10/30-11/5/04), Denver CO (11/2-11/6/03), Indianapolis IN (11/10-11/14/02), Charlotte NC (10/21-25/01), Minneapolis MN (11/5-9/00), Salt Lake City UT (10/31-11/4/99), Baltimore MD (10/18-10/22/98).
- Attended and presented poster (Plinthite in Southeastern U.S. Coastal Plain Soils) at Fourth International Union of Soil Science (IUSS) Soil Classification Conference, Lincoln, NE (6/11-6/15/12).
- Attended and presented research results at regional project meeting (S-280) in Auburn (6/20 to 6/22/01) and Blacksburg, VA (6/9 to 6/11/99).
- Attended and presented at ASA Southern Branch meetings, Memphis, TN (1/31 to 2/2/99).
- Attended and presented at National Remote Sensing Conference in Auburn (11/15/99 to 11/17/99).
    - Invited Session Chair at National Remote Sensing Conference (11/16/99).

Invited lectures/Presiding officer
Note: Other invited lectures included in *Teaching* (see section 4.A.7) and *Outreach* (see section 4.C).

- Invited speaker at Soil Science Society of America meetings on "Gulf Coastal Plain Soils" in Mineralogy (S-9/S-5) symposium, Tampa, FL (10/24/17).
- Invited speaker at Soil Science Society of America meetings on "Highly Weathered Soil Mineralogy in SE U.S. Landscapes" in Landscape Mineralogy (S-9/S-5) symposium, New Orleans, LA (11/5/07).
- Invited talk to Southern AgriBusiness Services (CCA's) on remote sensing (Montgomery, 1/9/03).
- Invited speaker at Soil Science Society of America meetings on "Management Dependent

Properties" in Use-Dependent Property (S-5/S-6) symposium, Indianapolis, IN (11/11/02).

- Invited speaker to Auburn University Environmental Institute Sponsored Lectures: *Remote Sensing Applications in Agronomy* (5/09/02).
- Invited presiding officer at Soil Science Society of America National Meeting technical session (Charlotte, NC) (S6: Site-Specific Soil Management) (10/24/01); (S9: Characterizing the Nature of Soil Minerals) (10/25/01); (Baltimore, MD) (S-10: Soil Hydromorphology) (10/19/98).
- Invited speaker at the 12th annual Alabama Department of Public Health on-site sewage treatment and disposal conference (1/23/01).
- Invited participant at forest tillage meeting between timber industry (e.g. Mead Coated Board, IP) and USFS, USDA-ARS, and AU researchers (9/8/00, 12/7/01).
- Invited Session Moderator at 13th Annual AL Water Resources Conference, Gulf Shores, AL (9/9/99).
- Invited speaker to IMC Agri-Business (*Soils of the SE*) - Certified Crop Advisor's Continuing Education Seminar (11/11/98)

3. Grants and Contracts

Funded Projects
(Student of Shaw shown with an *)

157. Project title: Irrigation Strategies for Alabama Black Belt Soils.
Investigator: T. Knappenberger, **J.N. Shaw (30%)**, and E. Brantley.
Sponsor: Alabama Wheat and Feed Grain Producers
Amount: $12,900
Duration: 03/01/2021 to 02/28/22

156. Project title: Effect of Cover Crops on Infiltration and Irrigation Management.
Investigator: T. Knappenberger, A. Gamble, **J.N. Shaw (20%)**, and K.Balkcom.
Sponsor: Alabama Wheat and Feed Grain Producers
Amount: $2,618
Duration: 03/01/2020 to 02/28/2021

155. Project title: Yield Analyses of Irrigated Soils
Investigator: T. Knappenberger, **J.N. Shaw (20%)**, and A. Rabinowitz.
Sponsor: Alabama Wheat and Feed Grain Producers
Amount: $20,520
Duration: 03/01/2021 to 02/28/2022

154. Project title: Effect of Cover Crops on Infiltration and Irrigation Management.
Investigator: T. Knappenberger, A. Gamble, **J.N. Shaw (20%)**, and K. Balkcom
Sponsor: Alabama Soybean Producers.
Amount: $7,000
Duration: 03/01/2021 to 02/28/22

153. Project title: Irrigation Strategies for Alabama Black Belt Soils
Investigator: T. Knappenberger, **J.N. Shaw (30%)**, and E. Brantley
Sponsor: Alabama Soybean Producers.
Amount: $5,600
Duration: 03/01/2021 to 02/28/22

152. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques.
Investigator: T. Knappenberger, **J.N. Shaw (30%)**, E. Brantley, and G. Pate
Sponsor: Alabama Soybean Producers
Amount: $8,000
Duration: 03/01/2021 to 02/28/22

151. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $12,000
Duration: 10/1/20 to 9/31/21

150. Project title: Auburn University Hosting the 2021 NCSS National Meeting
Investigator: **J.N. Shaw**
Sponsor: NRCS CESU 68-3A75-17-466
Amount: $60,000
Duration: 10/1/20 to 9/31/21

149. Project title: Land PKS collaboration with Auburn University
Investigators: **J.N. Shaw** and E.A. Guertal
Sponsor: International Fertilizer Development Center (Lead Institution), Muscle Shoals, AL; Feed the Future Innovation Lab for Collaborative Research on Sustainable Intensification (SIIL) at Kansas State University (KSU)
Amount: $26,869
Duration: 1/1/20 to 12/31/20

148. Project title: A decision support tool for phosphorus application in cotton fields that have a "high" soil test phosphorus rating
Investigators: R. Prasad, **J.N. Shaw,** A. Gamble and K. Stanford
Sponsor: Alabama Cotton Commission
Amount: $18,000
Duration: 3/1/20 to 2/28/21

147. Project title: Effect of Cover Crops on Infiltration and Irrigation Management.
Investigator: T. Knappenberger, A. Gamble, **J.N. Shaw**, and K.Balkcom.
Sponsor: Alabama Wheat and Feed Grain Producers
Amount: $5,000
Duration: 03/01/2020 to 02/28/2021

146. Project title: Irrigation Strategies for Alabama Black Belt Soils.
Investigator: T. Knappenberger, **J.N. Shaw**, and E. Brantley.
Sponsor: Alabama Wheat and Feed Grain Producers
Amount: $12,996
Duration: 03/01/2020 to 02/28/21

145. Project title: Effect of Cover Crops on Infiltration and Irrigation Management.
Investigator: T. Knappenberger, A. Gamble, **J.N. Shaw**, and K. Balkcom
Sponsor: Alabama Soybean Producers.
Amount: $6,978
Duration: 03/01/2020 to 02/28/21

144. Project title: Irrigation Strategies for Alabama Black Belt Soils
Investigator: T. Knappenberger, **J.N. Shaw**, and E. Brantley
Sponsor: Alabama Soybean Producers.
Amount: $5,600
Duration: 03/01/2020 to 02/28/21

143. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques.
Investigator: T. Knappenberger, **J.N. Shaw**, E. Brantley, and G. Pate
Sponsor: Alabama Soybean Producers
Amount: $7,000
Duration: 03/01/2020 to 02/28/21

142. Project title: Best Practices for Construction Site Stormwater Treatment using Flocculants
Investigator: M. Perez, W. Donald, X. Fang and **J.N. Shaw**
Sponsor: Alabama Department of Transportation Montgomery, Alabama
Amount: $369,300
Duration: 1/1/20 to 12/31/23

141. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $12,000
Duration: 1/1/20 to 9/31/20

140. Project title: Soil Characterization, Classification, and Quality of Agroecosystems in the Toledo District of Belize
Investigators: **J.N. Shaw**
Sponsor: York International Scholars Program
Amount: $2,000
Duration: 1/1/20 to 4/30/20

139. Project title: A decision support tool for phosphorus application in cotton fields that have a "high" soil test phosphorus rating
Investigators: R. Prasad, **J.N. Shaw**, and A. Gamble
Sponsor: Alabama Cotton Commission
Amount: $15,000
Duration: 3/1/9 to 2/28/20

138. Project title: Irrigation Strategies for Alabama Black Belt Soils
Investigators: T. Knappenberger, **J.N. Shaw**, and E. Brantley
Sponsor: Alabama Wheat and Feed Grain Committee
Amount: $13,000
Duration: 3/1/19 to 2/28/20

137. Project title: Irrigation Strategies for Alabama Black Belt Soils
Investigators: T. Knappenberger, **J.N. Shaw**, and E. Brantley
Sponsor: Alabama Soybean Producers
Amount: $8,000
Duration: 3/1/19 to 2/28/20

136. Project title: Drone Image Assessment to Improve Variable Rate Irrigation
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw**, C. Brodbeck
Sponsor: Alabama Soybean Producers
Amount: $4,000
Duration: 3/1/19 to 2/28/20

135. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques
Investigators: T. Knappenberger, **J.N. Shaw**, D. Monks, G. Pate,
Sponsor: Alabama Soybean Producers
Amount: $10,000
Duration: 3/1/19 to 2/28/20

134. Project title: Support for Auburn University Soil Judging Team
Investigator: **J.N. Shaw**
Sponsor: Alabama State Soil and Water Committee, ALFA Foundation
Amount: $5,500
Duration: 1/1/19 to 4/30/19

133. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $12,000
Duration: 1/1/19 to 9/31/19

132. Project title: Quantitative Tools for Developing Ecological Sites in the Southeastern U.S.
Investigators: **J.N. Shaw** and T. Knappenberger
Sponsor: USDA-NRCS, Soil Survey Collaborative Research Projects (by way of subcontract from NC State)
Amount: $50,000 to Auburn ($250,000 total)
Duration: 9/30/18 to 12/31/20

131. Project title: Irrigation Strategies for Alabama Black Belt Soils
Investigators: T. Knappenberger, **J.N. Shaw**, and E. Brantley
Sponsor: Alabama Soybean Producers
Amount: $8,000
Duration: 3/1/18 to 2/28/19

130. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques
Investigators: T. Knappenberger, J. Howe, **J.N. Shaw**, D. Monks, and G. Pate
Sponsor: Alabama Soybean Producers
Amount: $10,000
Duration: 3/1/18 to 2/28/19

129. Project title: Drone Image Assessment to Improve Variable Rate Irrigation
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw**, C. Brodbeck, and A. Poncet
Sponsor: Alabama Soybean Producers
Amount: $8,500
Duration: 3/1/18 to 2/28/19

128. Project title: A decision support tool for phosphorus application in cotton fields that have a "high" soil test phosphorus rating
Investigators: R. Prasad, **J.N. Shaw,** A. Gamble and K. Stanford
Sponsor: Alabama Cotton Commission
Amount: $15,000
Duration: 3/1/18 to 2/28/19

127. Project title: Improvement of Irrigation Management on Alabama Black Belt Soils
Investigators: T. Knappenberger, **J.N. Shaw** and E.A. Brantley
Sponsor: Alabama Wheat and Feed Grain Committee
Amount: $13,000
Duration: 3/1/18 to 2/28/19

126. Project title: Needs assessment of Guyana upland and coastal communities for sustainable soil and water collaborations
Investigators: T. Knappenberger, E. Brantley, **J.N. Shaw**, and J. Lindner
Sponsor: York International Scholars Program (ISP)
Amount: $6,000
Duration: 3/1/18 to12/31/18

125. Project title: Investigating Benchmark Soil Landscapes in the South: Linking soils, landscapes, vegetation and hydrology
Investigators: **J.N. Shaw** and T. Knappenberger
Sponsor: USDA-NRCS (by way of subcontract from UT-Martin)
Amount: $30,000 to Auburn ($100,000 total)
Duration: 1/1/18 to 12/31/19.

124. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $10,000
Duration: 10/1/17 to 9/31/18

123. Project title: Evaluation of Agronomic Management on Soil and Environmental quality of Red Ferralitic Landscapes in Mayabeque Province, Cuba
Investigators: B. Ortiz, E. Brantley, T. Knappenberger and **J.N. Shaw**
Sponsor: Auburn University AAES-Cuba grants program 2017
Amount: $9,000
Duration: 10/1/17 to 9/31/18

122. Project title: Relating Soil Morphological and Management-Dependent Properties to Trafficking Machine Pressures
Investigator: **J.N. Shaw**
Sponsor: USDA Forest Service
Amount: $10,000 (addition to original)
Duration: 7/1/17 to 12/31/17

121. Project title: Soil characterization work associated with the Soil Survey Update of Mobile County, Alabama
Investigators: **J.N. Shaw**

Sponsor: NRCS
Amount: $5,000
Duration: 3/1/17 to 12/31/17

120. Project title: Drone Image Assessment to Improve Variable Rate Irrigation
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw**, and C. Brodbeck
Sponsor: Alabama Soybean Producers
Amount: $8,500
Duration: 3/1/17 to 2/28/18

119. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques
Investigators: T. Knappenberger, J. Howe, **J.N. Shaw**, D. Monks, and G. Pate
Sponsor: Alabama Soybean Producers
Amount: $10,000
Duration: 3/1/17 to 2/28/18

118. Project title: Drone Image Assessment to Improve Variable Rate Irrigation
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw** and C. Brodbeck
Sponsor: Alabama Wheat and Feed Grain Committee
Amount: $8,500
Duration: 3/1/17 to 2/28/18

117. Project title: Improvement of Irrigation Management on Alabama Black Belt Soils
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw**, and D. Delaney
Sponsor: Alabama Wheat and Feed Grain Committee
Amount: $14,000
Duration: 3/1/17 to 2/28/18

116. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $10,000
Duration: 5/1/17 to 4/28/18

115. Project title: Soil Surface Temperature and Relative Humidity Effects on 2,4-D Volatilization
Investigators: T. Knappenberger, **J.N. Shaw**
Sponsor: Alabama Agricultural Experiment Station Hatch/Multistate Program
Amount: $50,000
Duration: 8/31/16 to 9/1/17

114. Project title: USDA Haitian Soil Survey Training
Investigators: D.Shannon, **J.N. Shaw** and G. Huluka
Sponsor: USDA, Cochran Fellowship
Amount: $84,881
Duration: 7/1/16 to 8/15/16

113. Project title: Develop strategies to evaluate land use management for sustainable food production and environmental protection
Investigators: B. Ortiz, E. Brantley, J.A. Howe, T. Knappenberger and **J.N. Shaw**
Sponsor: Auburn University AAES-Cuba grants program 2016

Amount: $13,750
Duration: 5/1/16 to 4/30/17

112. Project title: Auburn University EASL 2 Go Program
Investigators: T. Knappenberger, J.A. Howe, Y. Feng, **J.N. Shaw**, and E. Brantley
Sponsor: Auburn University Active Learning and Teaching Technology Grant
Amount: $22,000
Duration: 6/1/16 to 5/31/17

111. Project title: Variable Rate Irrigation Based on Soil Sampling and Sensor Techniques
Investigators: T. Knappenberger, J. Howe, **J.N. Shaw**, D. Monks, G. Pate, and Luke Carter
Sponsor: Alabama Soybean Producers
Amount: $4,000
Duration: 3/1/16 to 2/28/17

110. Project title: Improvement of Irrigation Management on Alabama Black Belt Soils
Investigators: T. Knappenberger, B. Ortiz, **J.N. Shaw**, and D. Delaney
Sponsor: Alabama Soybean Producers
Amount: $14,000
Duration: 3/1/16 to 2/28/17

109. Project title: Relating Soil Morphological and Management-Dependent Properties to Trafficking Machine Pressures
Investigators: **J.N. Shaw** and E.A. Carter
Sponsor: USDA Forest Service
Amount: $19,998.74
Duration: 9/1/15 to 12/31/17

108. Project title: Impact of Seed Meter and Down Pressure Technology on Planter Performance in Cotton
Investigators: J.P. Fulton, K. Balkcom, **J.N. Shaw**, S. Virk, A. Poncet, G. Pate, M. Hall
Sponsor: Alabama Cotton Commission
Amount: $4,500
Duration: 3/1/14 to 2/28/15

107. Project title: Impact of Seed Meter and Down Pressure Technology on Planter Performance in Corn
Investigators: J.P. Fulton, K. Balkcom, **J.N. Shaw**, S. Virk, A. Poncet, G. Pate, M. Hall
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $4,500
Duration: 3/1/14 to 2/28/15

106. Project title: Impact of Seed Meter and Down Pressure Technology on Planter Performance in Soybean
Investigators: J.P. Fulton, K. Balkcom, **J.N. Shaw**, S. Virk, A. Poncet, G. Pate, M. Hall
Sponsor: Alabama Soybean Producers
Amount: $4,500
Duration: 3/1/14 to 2/28/15

105. Project title: X-ray Diffraction and Fluorescence for Material, Energy, Earth and Environmental Research
Investigators: M.K. Lee, W. Hames, **J.N. Shaw**, and A. Son.

Sponsor: Auburn University Intramural Equipment Grants Program (AU-IGP Level IV)
Amount: $58,677
Duration: 6/13

104. Project title: Eco-Morphological Mitigation Design and Assessment Tools for the Alabama and Tennessee Appalachian Plateau
Investigators: E.Brantley, B. Helms, A.Ludwig, **J.N. Shaw**, G. Jennings, C. Anderson, D. Werneke, and J. Feminella
Sponsor: US EPA Region 04 Wetland Program Development Grants
Amount: $355,330
Duration: 10/1/12 to 9/30/15

103. Project title: Rapid Assessment of Soil Carbon Assistance for MLRA 15 Soil Survey Region
Investigators: **J.N. Shaw**
Sponsor: USDA-NRCS
Amount: $18,300
Duration: 4/1/11 to 3/31/12

102. Project title: Evaluating the Impact of Double Planted Rows on Corn Yield
Investigators: J.P. Fulton, A. Winstead, K. Balkcom, **J.N. Shaw**, G. Pate, M. Hall, D. Mullinex
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $3,000
Duration: 3/1/11 to 2/28/12

101. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $15,000
Duration: 10/1/10 to 9/31/11

100. Project title: Precision Agriculture, Alabama
Investigators: B. Ortiz, J. Fulton, P. Mask, **J.N. Shaw** and T. McDonald,
Sponsor: CSREES-Federal Administration Research Grants
Amount: $389,950
Duration: 8/1/10 to 7/31/12

99. Project title: Development of a Cotton Fertilizer Prescription for Variable Rate Application in the Coastal Plain
Investigators: K. Balkcom, **J.N. Shaw** and J.P. Fulton.
Sponsor: Alabama Cotton Commission
Amount: $8,000
Duration: 3/1/10 to 2/28/11

98. Project title: Precision Agriculture, Alabama
Investigators: B. Ortiz, J. Fulton, P. Mask, T. McDonald, **J.N. Shaw**, E.A. Guertal, K. Bowen and S. Taylor
Sponsor: CSREES-Federal Administration Research Grants
Amount: $390,628
Duration: 8/1/09 to 7/31/11

97. Project title: Precision Agriculture Technologies for Improved Crop Production in the Tennessee Valley of Alabama.
Investigators: J.P. Fulton, P. Mask, B. Ortiz, **J.N. Shaw**, J. Howe and T.P. McDonald.
Sponsor: CSREES-Federal Administration Research Grants
Amount: $388,440
Duration: 8/1/09 to 7/31/11

96. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $13,200 (reduced from $15k by budget cuts)
Duration: 10/1/09 to 9/31/10

95. Project title: Eco-Morphological Stream Design and Assessment Tools for the Alabama Piedmont
Investigators: E. Brantley, B. Helms, **J.N. Shaw**, G. Jennings, C. Anderson, J. Stoeckel
Sponsor: US EPA 104(b) grants
Amount: $319,043
Duration: 1/15/10 to 9/30/13

94. Project title: Utilizing Farm Data for Management Zone Creation
Investigators: A. Winstead, S. Norwood, D. Rodekohr, B. Ortiz, **J.N. Shaw** and J. Fulton
Sponsor: Alabama Soybean Commission
Amount: $1,500
Duration: 3/1/09 to 2/28/10

93. Project title: Utilizing Farm Data for Management Zone Creation
Investigators: A. Winstead, S. Norwood, D. Rodekohr, B. Ortiz, **J.N. Shaw** and J. Fulton
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $1,500
Duration: 3/1/09 to 2/28/10

92. Project title: Utilizing Farm Data for Management Zone Creation
Investigators: A. Winstead, S. Norwood, D. Rodekohr, B. Ortiz, **J.N. Shaw** and J. Fulton
Sponsor: Alabama Cotton Commission
Amount: $1,500
Duration: 3/1/09 to 2/28/10

91. Project title: Evaluation of Greenseeker for variable rate N application
Investigators: S. Norwood, A. Winstead, C. Burmester, D. Monks, J. Fulton, **J.N. Shaw**
Sponsor: Alabama Cotton Commission
Amount: $3,500
Duration: 3/1/09 to 2/28/10

90. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $4,125
Duration: 10/1/08 to 9/31/09

89. Project title: Precision Agriculture, Alabama
Investigators: J.P. Fulton, P.L. Mask, **J.N. Shaw**, T.P. McDonald and S.E. Taylor
Sponsor: CSREES-Federal Administration Research Grants
Amount: $415,769
Duration: 8/1/08 to 7/31/10

88. Project title: Precision Agriculture Technologies to Increase Production Efficiency in Alabama (Tennessee Valley).
Investigators: Mask, P.L., J. A. Howe, J.P. Fulton, **J.N. Shaw**, T.P. McDonald, A.M. Adrian and S.E. Taylor
Sponsor: CSREES-Federal Administration Research Grants
Amount: $413,605
Duration: 8/1/08 to 7/31/10

87. Project title: Evaluation of Greenseeker for variable rate N application
Investigators: S. Norwood, A. Winstead, C. Burmester, D. Monks, J. Fulton, **J.N. Shaw**
Sponsor: Alabama Cotton Commission
Amount: $3,500
Duration: 3/1/08 to 2/28/09

86. Project title: Addressing Poultry Litter Management Challenges through Improved Understanding of Fundamental Hydrologic and Nutrient Transport Processes (continuation)
Investigators: Srivastava, P, J.P. Fulton, K.H. Yoo,T.Way, W. F. Owsley, C.W. Wood, and **J.N. Shaw.**
Sponsor: AU Natural Resource Initiative - Alabama Agriculture Experiment Station Initiative
Amount: $77,371 (2nd yr funding)
Duration: 1/1/08 to 9/31/08

85. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $4,125
Duration: 9/31/07 to 10/1/08

84. Soil Characterization Data Input Contract
Investigators: **J.N. Shaw**
Sponsor: USDA-NRCS, Univ. of Idaho
Amount: $7,000
Duration: 10/1/07 to 9/30/08

83. Project title: Evaluation of Greenseeker for variable rate N application
Investigators: S. Norwood, A. Winstead, C. Burmester, D. Monks, J. Fulton, **J.N. Shaw**
Sponsor: Alabama Cotton Commission
Amount: $4,000
Duration: 3/1/07 to 2/28/08

82. Project title: Evaluation of variable rate seeding for cotton
Investigators: J. Fulton, S. Norwood, **J.N. Shaw**, C. Burmester, C. Brodbeck, A. Winstead, M. Hall, P. Mask
Sponsor: Alabama Cotton Commission
Amount: $5,500

Duration: 3/1/07 to 2/28/08

81. Project title: Evaluation of variable rate seeding for corn
Investigators: J. Fulton, S. Norwood, **J.N. Shaw**, C. Burmester, C. Brodbeck, A. Winstead, M. Hall, P. Mask
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $5,500
Duration: 3/1/07 to 2/28/08

80. Project title: Addressing Poultry Litter Management Challenges through Improved Understanding of Fundamental Hydrologic and Nutrient Transport Processes
Investigators: P. Srivastava, J.P. Fulton, K.H. Yoo, T.Way, W. F. Owsley, C.W. Wood, and **J.N. Shaw.**
Sponsor: AU Natural Resource Initiative - Alabama Agriculture Experiment Station Initiative
Amount: $93,185 (1st yr funding)
Duration: 1/1/07 to 8/30/08

79. Project title: Developing techniques and alternative paradigms for Order 1 soil surveys
Investigators: **J.N. Shaw**
Sponsor: Alabama Agriculture Experiment Station
Amount: $17,144
Duration: 1/1/07 to 8/31/07

78. Project title: A systems approach to sustain and stimulate the agricultural economy of Alabama: Optimal on- and off-farm management of poultry litter.
Investigators: J. Fulton, P. Srivastava, O. Fasina, F. Owley, R. Muntifering, C.W. Wood, Y. Feng, **J.N. Shaw**, E. van Santen, H. Fadamiro.
Sponsor: AAES Poultry Initiative
Amount:$312,740 (2nd yr funding)
Duration: 10/1/06 to 9/30/07

77. Project title: Order 1 Soil Survey, Landscape Attributes, and Simulation Modeling to Predict Seasonal Saturation of Plinthic Soils in the Coastal Plain of Alabama and Georgia
Investigators: **J.N. Shaw** and J. P. Fulton
Sponsor: USDA-NRCS
Amount: $73,040
Duration: 9/1/06 to 8/31/09

76. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $2,750
Duration: 9/31/06 to 10/1/07

75. Project title: Precision agriculture and precision forestry- Alabama
Investigators: J.P. Fulton, P.L. Mask, T. McDonald, **J.N. Shaw**, M. Dougherty, P. Srivastava, S. Taylor
Sponsor: CSREES-Federal Administration Research Grants
Amount: $555, 057
Duration: 8/1/06 to 7/31/08

74. Project title: Evaluation of variable rate seeding for cotton

Investigators: J. Fulton, S. Norwood, C. Burmester, M. Hall, P. Mask, **J.N. Shaw**, C. Dillard
Sponsor: Alabama Cotton Commission
Amount: $5,500
Duration: 3/1/06 to 2/28/07

73. Project title: Evaluation of variable rate seeding for corn
Investigators: J. Fulton, S. Norwood, C. Burmester, M. Hall, P. Mask, **J.N. Shaw**, C. Dillard
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $5,500
Duration: 3/1/06 to 2/28/07

72. Project title: Airborne Imagery for Rapid Crop Productivity Assessments
Investigators: G. Huluka, P. Mask, and **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $10,000
Duration: 3/1/06 to 2/28/07

71. Project title: Cotton production systems to sequester Soil Organic Carbon in the Southeastern U.S.A.
Investigators: A. Franzluebbers, H. Causarano*, **J.N. Shaw**, D. Wayne Reeves
Sponsor: Cotton Incorporated
Amount: $5,000
Duration: 1/1/06 to 12/31/06

70. Project title: A systems approach to sustain and stimulate the agricultural economy of Alabama: Optimal on- and off-farm management of poultry litter.
Investigators: J. Fulton, P. Srivastava, O. Fasina, F. Owley, R. Muntifering, C.W. Wood, Y. Feng, **J.N. Shaw**, E. van Santen, H. Fadamiro.
Sponsor: AAES Poultry Initiative
Amount:$290,000 (1st yr funding)
Duration: 10/1/05 to 9/30/06

69. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $2,750
Duration: 9/31/05 to 10/1/06

68. Project title: Precision agriculture and precision forestry- Alabama
Investigators: J.P. Fulton, P.L. Mask, T. McDonald, **J.N. Shaw**, S. Taylor, and M. Dougherty
Sponsor: CSREES-Federal Administration Research Grants
Amount: $560, 821
Duration: 8/15/05 to 8/14/07

67. Project title: Innovative on-site wastewater treatment for the Black Belt
Investigators: M. Dougherty, **J.N. Shaw**, C.W. Wood
Sponsor: AL Land Grant Alliance
Duration: Amount: $25,000

66. Project title: Cotton production systems to sequester Soil Organic Carbon in the Southeastern USA

Investigators: A. Franzluebbers, H. Causarano*, **J.N. Shaw**, D. Wayne Reeves
Sponsor: Cotton Incorporated
Amount: $5,000
Duration: 1/1/05 to 12/31/05

65. Project title: Evaluation of variable rate seeding for cotton
Investigators: J. Fulton, S. Norwood, C. Burmester, M. Hall, P. Mask, **J.N. Shaw**, C. Dillard
Sponsor: Alabama Cotton Commission
Amount: $7,500
Duration: 3/1/05 to 2/28/06

64. Project title: Using Equipment-Mounted Sensor to Optimize Nitrogen Rates for Wheat
Investigators: S. Norwood, P. Mask, G. Huluka, **J.N. Shaw**, K. Balkcom, C. Dillard
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $7,400
Duration: 3/1/05 to 2/28/06

63. Project title: Airborne Imagery for Rapid Crop Productivity Assessments
Investigators: G. Huluka, P. Mask, and **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $10,000
Duration: 3/1/05 to 2/28/06

62. Project title: Evaluation of variable rate seeding for corn
Investigators: J. Fulton, S. Norwood, C. Burmester, M. Hall, P. Mask, **J.N. Shaw**, C. Dillard
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $7,500
Duration: 3/1/05 to 2/28/06

61. Project title: Calibration of Granular Variable-Rate Application Equipment: Volume versus Mass Measurement for Pattern Assessment
Investigators: J. Fulton, S. Norwood, C. Burmester, M. Hall, P. Mask, **J.N. Shaw**, C. Dillard
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $4,200
Duration: 3/1/05 to 2/28/06

60. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $2,750
Duration: 9/31/04 to 10/1/05

59. Project title: Cooperative Agreement- Soil Characterization for MO18
Investigators: **J.N. Shaw**
Sponsor: USDA-NRCS
Amount: $10,000
Duration: 5/1/04 to 9/20/05

58. Project title: Support for AlabamaView
Investigators: J.M. Wersinger, L. Marzen, **J.N. Shaw**, P.L. Mask

Sponsor: AmericaView Inc.
Amount: $89,500
Duration: 7/1/04 to 6/30/05

57. Project title: Precision agriculture and precision forestry- Alabama
Investigators: T.P. McDonald, P.L. Mask, J.P. Fulton, **J.N. Shaw** and S. E. Taylor
Sponsor: CSREES-Federal Administration Research Grants
Amount: $544,330
Duration: 4/1/04 to 3/31/05

56. Project title: AlabamaView Consortium Development
Investigators: J.M. Wersinger, L. Marzen, **J.N. Shaw**, P.L. Mask
Sponsor: AmericaView Inc.
Amount: $89,500
Duration: 4/1/04 to 3/31/05

55. Project title: Airborne Imagery for Rapid Crop Productivity Assessment
Investigators: G. Huluka, P. Mask, and **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $10,000
Duration: 3/1/04 to 2/28/05

54. Project title: Variable-Rate Nitrogen Management for Tennessee Valley Corn
Investigators: J. Fulton, P. Mask, C. Burmester, **J.N. Shaw**, S. Taylor, S. Norwood
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $7,000
Duration: 3/1/04 to 2/28/05

53. Project title: Using Equipment-Mounted Sensor to Optimize Nitrogen Rates for Wheat
Investigators: S. Norwood, P. Mask, G. Huluka, **J.N. Shaw**, K. Balkcom, C. Dillard
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $6,000
Duration: 3/1/04 to 2/28/05

52. Project title: Potential for Soil Carbon Sequestration in Cotton Production Systems of the Southeastern USA
Investigators: A. Franzluebbers, **J.N. Shaw**, D.W. Reeves, H. Causarano*
Sponsor: Cotton Incorporated
Amount: $5,000
Duration: 1/1/04 to 12/31/04

51. Project title: Field-Scale Aflatoxin Risk Index Development and Validation
Investigators: J. Owen, **J.N. Shaw**, K.L. Bowen
Sponsor: National Peanut Board
Amount: $10,000
1/1/04 to 12/31/04

50. Project title: Precision Agriculture, Tennessee Valley Research and Extension Center, Alabama
Investigators: P. L. Mask, T. P. McDonald, **J.N. Shaw**, S. E. Taylor and J.M. Wersinger
Sponsor: CSREES-Federal Administration Research Grants
Amount: $446,360

Duration: 9/15/03 to 9/30/05

49. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $2,750
Duration: 9/31/03 to 10/1/04

48. Project title: Thermogravimetric Analyzer for Soil Mineralogy
Investigators: **J.N. Shaw**
Sponsor: Auburn University General Fee Equipment Awards
Amount: $38,000

47. Project title: Impact of Cropping System, Soils, and Terrain Attributes on Greenhouse Gas Emissions and Carbon Sequestration of Row Crop Lands
Investigators: Co-PI's: C.W. Wood and **J.N. Shaw**, R.L. Raper, D.W. Reeves, K. Cummins, and P.L. Mask
Sponsor: AAES Foundation Grant
Amount: $62,421
Duration: 10/1/03 to 10/1/05

46. Project title: Evaluation of Integrated Technologies Including Pressure Compensating Subsurface Drip Irrigation (SDI), Precision Vehicle Guidance, Field Mapping and Yield Monitoring for Minimum Till Row Crop Production on Rolling Terrain.
Investigators: J. Baier, **J.N. Shaw**, R. Raper, P.L. Mask, C. Burmester, L. Curtis, S. Taylor, B. Norris and D. Harkins
Sponsor: AAES Foundation Grant
Amount: $118,430
Duration: 10/1/03 to 10/1/05

45. Project title: A molecular approach to determine the origin of fecal bacteria in Catoma Creek of the Alabama River Basin
Investigators: Y. Feng, C.W. Wood, and **J.N. Shaw**
Sponsor: Water Resources research Institute Program
Amount: $24,863

44. Project title: Development of environmental surface condition indicators from satellite data for delivery to users on the Alabama from Space website
Investigators: J.M. Wersinger, L.J. Marzen and **J.N. Shaw**
Sponsor: AUEI Small Competitive Grants Program
Amount: $38,494

43. Project title: Field-Scale Assessment of Non-irrigated Crop Management Systems for Minimizing Short-term Drought Risk, Improving Soil Productivity, and Delineating Management Zones
Investigators: **J.N. Shaw**, D.W. Reeves, R.L Raper, H.A. Torbert, P.L. Mask
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $10,000
Duration: 3/1/03 to 2/28/04

42. Project title: Using an Equipment-Mounted Sensor to Optimize Nitrogen Rates for Wheat

Investigators: P.L. Mask, G. Huluka, **J.N. Shaw**, K. Balkcom
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $11,550
Duration: 3/1/03 to 2/28/04

41. Project title: Irrigated Corn Production Utilizing Subsurface Drip Irrigation (SDI) with Fertility Rate and Fertility Management Variables on Rolling Terrain
Investigators: L. Curtis, P.L. Mask, **J.N. Shaw**, J. Baier, C. Burmester, R. Raper and C. Norris
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $12,000
Duration: 3/1/03 to 2/28/04

40. Project title: Airborne Imagery for Rapid Crop Productivity Assessments
Investigators: D. Sullivan*, G. Huluka, P.L. Mask, and **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $10,100
Duration: 3/1/03 to 2/28/04

39. Project title: Evaluation of Pressure Compensating Subsurface Drip Irrigation (SDI) on Rolling Terrain for Cotton Production
Investigators: L. Curtis, J. Baier, **J.N. Shaw**, R. Raper C. Burmester, and C. Norris
Sponsor: Alabama Cotton Commission
Amount: $12,000
Duration: 3/1/03 to 2/28/04

38. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $11,000
Duration: 10/1/02 to 9/31/03

37. Project title: Assessing Soil Quality of Southeastern U.S. Timber Lands
Investigator: **J.N. Shaw**, E.A. Carter, and C.W. Wood.
Sponsor: USDA-Forest Service
Amount: $15,000
Duration: 7/1/02 to 12/31/03

36. Project title: Precision Agriculture, Tennessee Valley Research and Extension Center, Alabama
Investigators: Paul L. Mask, **J.N. Shaw**, S. Taylor, D.W. Reeves
Sponsor: CSREES-Federal Administration Research Grants
Amount: $449,280
Duration: 6/01/02 thru 5/31/04

35. Project title: Evaluation of Veris Electrical Conductivity Mapping for Soil Survey Applications
Investigators: **J.N. Shaw,** M.L. Norfleet, and W.E. Puckett
Sponsor: Solicitation to USDA- NRCS Soil Survey Program
Amount: $30,000
Duration: 3/1/02 to 12/31/03

34. Project title: Utilizing Yield Maps and Remote Sensing Imagery to Optimize Nitrogen Fertilizer Rates

for Corn
Investigators: P. L. Mask, **J.N. Shaw**, D. Sullivan*, and C. Dillard.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $8,000
Duration: 3/1/02 to 2/28/03

33. Project title: Analyzing Remote Sensing Data for Grain Crop Improvement
Investigators: D. Rickman, J. Luvall, P.L. Mask, **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $12,000
Duration: 3/1/02 to 2/28/03

32. Project title: Field-Scale Assessment of Non-irrigated Crop Management Systems for Minimizing Short-term Drought Risk, Improving Soil Productivity, and Delineating Management Zones
Investigators: **J.N. Shaw**, D.W. Reeves, P.L. Mask, J.E. Bannon
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $12,000
Duration: 3/1/02 to 2/28/03

31. Project title: Field-Scale Assessment of Non-irrigated Crop Management Systems for Minimizing Short-term Drought Risk, Improving Soil Productivity, and Delineating Management Zones
Investigators: **J.N. Shaw**, D.W. Reeves, P.L. Mask
Sponsor: Cotton Commission
Amount: $9,000
Duration: 1/01/2002 to 12/31/2002

30. Project title: Irrigated Cotton Management with Conservation Tillage/Remote Sensing of Irrigated Cotton
Investigators: D. W. Reeves, **J. N. Shaw**, L. M. Curtis, C. H. Burmester, P.L. Mask
Sponsor: Cotton Commission
Amount: $10,000
Duration: 1/01/2002 to 12/31/2002

29. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $11,000
Duration: 10/1/01 to 9/31/02

28. Project title: Development of Geospatial Training for Precision Agriculture Practitioners
Investigators: P.L. Mask, **J.N. Shaw**, and K.L. Flanders
Sponsor: CSREES-Federal Administration Research Grant Program
Amount: $174,360
Duration: 9/01/01 to 9/31/02

27. Project title: Aflatoxin Risk Index Development and Validation
Investigators: **J.N. Shaw** and KL Bowen
Sponsor: AL PEANUT, APPA
Amount: $10,621
Duration: 9/01/01

26. Project title: Precision Agriculture/ Tennessee Valley Research and Extension Center: Key Research Needs for Improving the Sustainability of Tennessee Valley Cotton Production
Investigators: **J.N. Shaw**, P.L. Mask, D.W. Reeves, C. Burmester, and J. Baier
Sponsor: CSREES-Federal Administration Research Grants
Amount: $137,592
Duration: 6/01/01 to 5/31/02

25. Project title: Smith's Station Onsite Sewage Subdivision Monitoring Project
Investigators: **J.N. Shaw** and C.W. Wood
Sponsor: Alabama Department of Public Health
Amount: $10,000
Duration: 3/31/01 to 2/28/03

24. Project title: Field-Scale Assessment of Non-irrigated Crop Management Systems for Minimizing Short-term Drought Risk, Improving Soil Productivity, and Delineating Management Zones
Investigators: **J.N. Shaw**, D.W. Reeves, P.L. Mask, J.E. Bannon
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $12,000
Duration: 3/1/01 to 2/28/02

23. Project title: Evaluating Percent Residue Cover as it Relates to Soil Organic Matter via Remote Sensing
Investigators: D.G. Sullivan*, **J.N. Shaw**, and P.L. Mask.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $7,500
Duration: 3/1/01 to 2/28/02

22. Project title: Evaluation of Soil Sampling Techniques for Optimum Profitability
Investigators: A.N. Thompson*, **J.N. Shaw**, and P.L. Mask
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $8,000
Duration: 3/1/01 to 2/28/02

21. Project title: Site-Specific Tillage to Alleviate Site Specific Compaction, Is There a Need?
Investigators: R.L. Raper, P. Mask, **J.N. Shaw**, D.W. Reeves, E. Van Santen, and T. Grift.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $12,000
Duration: 3/1/01 to 2/28/02

20. Project title: Utilizing Yield Maps and Remote Sensing Imagery to Optimize Nitrogen Fertilizer Rates for Corn
Investigators: P. L. Mask, **J.N. Shaw**, D. Sullivan*, and C. Dillard.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $8,000
Duration: 3/1/01 to 2/28/02

19. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee

Amount: $11,000
Duration: 10/1/00 to 9/31/01

18. Project title: Using Remote Sensing for Precision Agriculture
Investigators: co PI's: J.M. Wersinger and **J.N. Shaw**, D. Rickman, P.L. Mask, J. Luvall
Sponsor: Alabama-NASA Epscor- Preparation grants program
Amount: $123,819 (including $30k data acquisition)
Duration: 9/1/00- 8/31/01

17. Project title: Development of Geospatial Training for Precision Agriculture Practitioners (Part I)
Investigators: P.L. Mask and **J.N. Shaw**
Sponsor: USDA-CSREES Special Research Grants Program
Amount: $79,560
Duration: 9/15/2000 to 9/30/2001

Project title: Development of Geospatial Training for Precision Agriculture Practitioners (Part II)
Investigators: T.R. Blackwell, P.L. Mask and **J.N. Shaw**
Sponsor: USDA-CSREES Special Research Grants Program
Amount: $318,240
Duration: 9/15/2000 to 9/30/2001

16. Project title: Soil Data Characterization for Soil Survey of Ft McLellan
Investigator: **J.N. Shaw**
Sponsor: USDA-NRCS
Amount: $5,068
Duration: 3/1/00-9/31/00

15. Project title: Soil Data Characterization for Soil Survey of Redstone Arsenal
Investigator: **J.N. Shaw**
Sponsor: USDA-NRCS
Amount: $5,000
Duration: 3/1/00-9/31/00

14. Project title: Estimating Soil Organic Matter in Grain Fields Using Remotely Sensed Imagery
Investigators: D.G. Sullivan*, **J.N. Shaw**, and P.L. Mask.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $4,800
Duration: 3/1/00 to 2/28/01

13. Project title: Site-Specific Tillage to Alleviate Site Specific Compaction, Is There a Need?
Investigators: R.L. Raper, P. Mask, **J.N. Shaw**, D.W. Reeves, E. Van Santen, and T. Grift.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $6,000
Duration: 3/1/00 to 2/28/01

12. Project title: Utilizing Yield Maps and Remote Sensing Imagery to Optimize Nitrogen Fertilizer Rates for Corn
Investigators: P. L. Mask, **J.N. Shaw**, D. Sullivan*, and C. Dillard.
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $8,000
Duration: 3/1/00 to 2/28/01

11. Project title: Evaluation of Soil Sampling Techniques for Optimum Profitability
Investigators; P. L. Mask, **J.N. Shaw**, and D. G. Sullivan*
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $8,000
Duration: 3/1/00 to 2/28/01

10. Project title: Site-Specific Variation in Soil Quality in North Alabama
Investigators: D.W. Reeves, P.L. Mask, R.L. Raper, **J.N. Shaw**
Sponsor: Alabama Farmers Federation Wheat and Feed Grain Committee
Amount: $6,000
Duration: 3/1/00 to 2/28/01

9. Project title: Reducing NPS Pollution from Onsite Sewage Disposal Systems through Improved Soil Assessment
Investigators: **J.N. Shaw**
Sponsor: Water Resources Research Institute, 2000 program
Amount: $23,184
Duration: 3/1/00

8. Project title: Development of a Rapid Bioassessment Technique to Prioritize Areas Needing Reclamation of Acid Mine Drainage
Investigators: E. Irwin, C.W. Wood, and **J.N. Shaw**
Sponsor: ADEM 319 program
Amount: $44,448
Duration: 3/1/00

7. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil and Water Committee
Amount: $10,815
Duration: 1/1/00 to 9/31/00

6. Project title: Remote Sensing for Site Specific Agriculture in Alabama. Yield Variability Prediction, Management Practices, and Environmental Impact.
Investigators: Wersinger, J.M., P. Mask, **J.N. Shaw**, D.M. Rickman, and H. Clonts
Sponsor: Alabama-NASA Epscor- Preparation grants program
Amount: $94,550
Duration: 6/1/99 to 8/31/00

5. Project title: Competition Effects on the Accuracy of α,α dipyridyl as an Indicator of Reducing Conditions in Wetlands
Investigators: **J.N. Shaw**
Sponsor: Competitive research grant support of research faculty (AU)
Amount: $2,874
Duration: 5/1/99 to 4/31/00

4. Project title: Using Spectral Reflectance to Evaluate Compaction
Investigators: **J.N. Shaw** and E.A. Guertal
Sponsors: AL. Space Grant Consortium/ Joint Industry/University proposal

Amount: $10,040
Duration: 3/1/99 to 10/31/00

3. Project title: Slope Aspect Effects on Soil Properties and Timber Harvesting Induced Compaction in Piedmont Forests
Investigators: **J.N. Shaw**, E.A. Carter, M.L. Norfleet
Sponsor: U.S. Forest Service
Amount: $26,349
Duration: 9/1/98 to 12/31/99

2. Project title: Utilizing NLEAP to Predict N Losses in Different Soils
Investigator: **J.N. Shaw**
Sponsor: USDA-NRCS
Amount: $12,000
Duration: 5/1/98 to 4/31/99

1. Project title: AL State Soil and Water Committee Contract for Soil Characterization Services for Soil Survey Activity
Investigator: **J.N. Shaw**
Sponsor: State Soil Water Committee
Amount: $10,525
Duration: 10/1/98 to 9/31/99

*(57 other grant proposal submissions not funded)

C. Outreach

1. Program Description

Program 1: Representative to the National Cooperative Soil Survey
The National Cooperative Soil Survey (NCSS), established in 1899, is the program by which the Soil Surveys of our lands are produced and published. These surveys serve as the foundation of natural resource assessment. The NCSS is a program administered and funded through the USDA-Natural Resource Conservation Service (NRCS), and cooperators such as Auburn University- Alabama Agricultural Experiment Station (AAES) and other state and federal agencies play a significant role. The NCSS program is widely recognized as the premier natural resource inventory success story.

One of my roles at Auburn is to serve as the AAES representative to the National Cooperative Soil Survey. This is an activity by which I provide quality control, technical assistance, and leadership to the Soil Survey program, and I consider this one of my primary activities. The target audience of my direct activities is the USDA-NRCS, however, soil surveys are a fundamental resource on which society relies on for natural resource decision-making. In these duties, I facilitate soil survey activities by: 1) serving on a committee that advises the USDA-NRCS Soil Survey Director, 2) providing technical laboratory services, interpretations, and reports for on-going survey activity, 3) participating in field reviews of soil survey activity (by county), 4) hosting and participating in Regional, State, and National Soil Survey work-planning conferences and activities, 5) instructing workshops for field NCSS soil scientists, 6) reviewing soil survey progress reports and documents, and 7) assisting in special projects. The impact of my participation in the program is evidenced by published soil survey reports (and associated publications) and the generation of extramural funding.

Program 2: Geospatial Training

The utilization of geospatial technologies (geographic information systems, global positioning systems, remote sensing) in society is increasing. Auburn University and the AAES have a responsibility to the citizens of Alabama to provide training in these technologies and demonstrate their applications in agronomic and environmental problem-solving. I consider this to be an important responsibility in my duties.

My target audience for these outreach activities has been the geospatial technology user-community of Alabama and agents of the Alabama Cooperative Extension System (ACES), with emphasis on the applications of these technologies in soil science, environmental science, and crop production. The majority of my activities centered on development of workshops, training sessions, and invited talks. The workshops were conducted jointly with ACES faculty. We trained many Alabama Cooperative Extension System agents, producers, and other professionals in geospatial applications through our workshops conducted in cooperation with the U.S. Space and Rocket Center.

Program 3: Professional Soil Classifiers of Alabama

Alabama has a Professional Registration act for Professional Soil Classifiers (PSC). Similar to a Professional Engineering (PE) license, this registration is required by soil scientists working in Soil Classification for evaluating and mapping soils for waste disposal, urban development, wetland determination, forestry production, and various other environmental applications. I served on the advisory council for the State Board of Registration for Professional Soil Classifiers for fifteen years (2000-2015).

Soil Classifier's play a vital role in society, with most employed in the environmental consulting industry. One area in which we made a significant impact is with regard to the on-site waste disposal regulations. During this process, the PSC advisory council interacted with the Alabama Department of Public Health and the Professional Engineering Board on the proper expertise and techniques for evaluating sites for waste disposal suitability. Working with these groups, we were developed an approach by which soil classifiers evaluate sites for on-site waste disposal. This better protects the Alabama consumers and environment.

In my advisory council capacity, I: 1) serve as the academician responsible for reviewing and screening applicants, and for developing, administering, and grading the registration examination for the state licensing board, 2) participate in advisory council meetings and represent the PSC's in professional discussions with other boards, 3) host and participate in PSC Association meetings, 4) provide continuing education to Soil Classifiers through workshops and field tours.

2. Activities and Products

2. a. Instructional Activities

AAES representative to the NRCS-National Cooperative Soil Survey

- Meeting Development and Coordination
    - Co-chair of steering committee, developer, organizer and host (Auburn University) of the virtual 2021 USDA-NRCS National Cooperative Soil Survey National Conference (June 8th-10th, 2021). The conference theme was "Evolution from Soil Quality to Dynamic Soil Survey".
        - Participants of the NCSS conference include representatives from the 1862 and 1890 land-grant universities, experiment stations, NRCS, U.S. Forest Service, National Park Service, Bureau of Land Management, Bureau of Indian Affairs, Environmental Protection Agency, U.S. Fish and Wildlife Service, National Association of State Conservation Agencies, and the National Association of

Consulting Soil Scientists.
    - My responsibilities include establishing agenda, developing program, inviting speakers, developing research presentation format, soliciting and review of abstracts, conducting the meeting, and process meeting information.
    - 450 participants registered for meeting.
    - The meeting consisted of over 200 live and pre-recorded presentations.
  - Co-organized (chairman of steering committee) (with NRCS), co-hosted, and co-edited proceedings of the *National Cooperative Soil Survey- Year 2000 Southern Soils Conference* (from 6/18 to 6/23/00). Conference is held every two years with 80 participants from Land Grant Universities, Experiment Stations and the USDA-NRCS in attendance.
  - Co-organized and co-hosted 2005 AL Cooperative Soil Survey Work Planning Conference (10/5/05). Duties included moderator of meeting, and a presentation on AU Soil Survey activities. Cooperators from universities, state and federal agencies in attendance.

- Presentation (*A Pedological Approach to Compaction Susceptibility of Alabama Kanhapludults*) at 2019 National Cooperative Soil Survey Work Planning Conference (Kingstown, RI) (June 9th-13th, 2019).

- Invited presentation (*Dynamic Soil Properties and Ecological Sites in Southeastern Coastal Plain Kandiudults*) at 2018 Northeast-South Regional National Cooperative Soil Survey Work Planning Conference, hosted by West Virginia University, Summersville, WV (June 24th-28th, 2018).

- Invited presentation (*Dynamic Soil Properties of Some Alabama Soils*) at 2009 National Cooperative Soil Survey Work Planning Conference at New Mexico State University, Las Cruces, NM (May 9th -14th, 2009)

- Invited lecture (*Alabama soils*) at USDA-NRCS Soil Geomorphology Institute hosted by Alabama A&M University (6/10/09).

- Invited presentation (*Land Grant Universities and the National Cooperative Soil Survey*) at USDA-NRCS MLRA Leaders meeting (2/7/07).
  - Attended USDA-NRCS MLRA Leaders meeting hosted by Auburn (2/6-7/07).

- Presented talks at Natural Resources Conservation Service National Agronomy Meeting, May 23-25, 2006 (Causarano-student on 5/23, Shaw on 5/25). Approximately 100 NRCS Agronomists in attendance.
  - Presented talks at Field Day associated with Natural Resources Conservation Service National Agronomy Meeting (5/24/06).

- Co-developed presentation (on the National Cooperative Soil Survey) for Dean Richard Guthrie to present at Southern Dean and Director meeting (4/1/06).

- Invited presentation on the *Experiment Station perspective on the NCSS* to the Southeastern Region (MO 14, 15, 16 and 18) Soil Survey Board of Directors (State Conservationists from 13 Southern states) meeting in Biloxi, MS (6/10/04).

- Invited presentation on *Innovative Technologies in Soil Survey* to Alabama – 2003 AL Cooperative Soil Survey Work Planning Conference and Soil Scientist Workshop (3/11/03).

- Invited instructor (4 hrs) of *Soil Mineralogy* at the National Program- Natural Resource Conservation Service-Soil Science Institute. This program provides training of NRCS field Soil Survey personnel. Institute was held at Alabama A&M University (3/23 and 3/24/00).

- Invited instructor at Natural Resource Conservation Service (NRCS) Workshop (MO15).
    - Instructed sessions on "Interpreting Lab data" (5/19/98) and "Describing Soils" (5/20/98).

Geospatial Training

- Meeting Organization
    - Assisted ACES faculty in development of ACES advanced Extension Agent Training (15 agents) workshop on Geospatial Applications in Agriculture, Belle Mina Research and Extension Center (7/23/02).
        - Instructed soil survey portion (7/23/02).
    - Assisted in development of ACES Extension Agent Training (14 agents) workshop on Geospatial Applications in Agriculture, Belle Mina Research and Extension Center (5/14/02).
        - Instructed soil survey portion (5/14/02).
    - Coordinated, co-developed (with US Space and Rocket Center) and instructed workshop on Geospatial Technologies in Agriculture at Certified Crop Advisor Training, Auburn, AL (12/12/01). Approximately 20 participants from industry.
    - Coordinated, co-developed (with US Space and Rocket Center) and instructed (3hr) workshop on Geospatial Technologies in Agriculture at Alabama Crop Management Association 2001 Summer Meeting (8/9/01). Approximately 20 participants from industry.
    - Assisted in development of ACES Extension Agent Training (10 agents) workshop on Geospatial Applications in Agriculture, Auburn (5/23 and 5/24/00).
        - Instructed Remote Sensing portion (5/24/00).

- Presented Alabama Cooperative Extension System webinar on Soil Survey (9/26/17).

- Invited presentation (*Characterizing management zones*) to Precision Ag Management Zone Workshop hosted by the Alabama Cooperative Extension System (6/28 & 29/11).

- Presented (Belle Mina field-scale research) at Alabama Cotton Field Day at Tennessee Valley Research and Extension center (8/4/05).

- Shaw group (Owen) presented (field-scale research) at Southwest Alabama crops tour hosted by ACES at Gulf Coast Regional Research and Extension center (8/9/05).

- Attended and presented (15 minute) at Precision Ag and Field Crops Day, Lawrence Co., AL (7/20/04).

- Attended and presented on "Zone Management" at South Alabama Precision Ag and Field Crops Day (8/17/04) (Henry, Dale counties).

- Invited instructor and assisted in development of the U.S. Space and Rocket Center Precision Agriculture Workshop (2/8 and 2/9/01). Participants (approximately 20) included commodity reps, industry reps, and growers.

- Developed presentation (presented by Dr. John Fulton) for *Implementing Precision Ag: Guidance Systems and Variable-Rate Technologies, Alabama Producer Workshop* at Tennessee Valley Research and Extension Center - presentation on *Management Zone Data: A Case Study* (2/1/06).

- Co-developed presentation by: Rodekohr, D.A., Shaw, J, White, M*. 2005. Delineating Management Zones for Precision Agriculture applications. IPM and Precision Agriculture Workshop, Belle Mina, Alabama, (5/4/05).

- Two presentations by Shaw group (Norwood and Owen) at Belle Mina field tour for Alabama Seedsman's Association & Alabama Ag Chemical & Fertilizer Dealers Association (7/17/03).

- Provided Precision Agriculture overview at Alabama Cotton Field Day at Tennessee Valley Research and Extension Center (7/31/03).

- Provided presentation (15 minutes) on Precision Ag to 2002 ALFA Commodity Conference Cotton and Feed Grains Tour (8/3/02).

- Invited talk on field-scale EV Smith experiment and Precision Agriculture to Alabama Association of Conservation Districts Conservation Practices and Research Committee at EV Smith (7/16/02).

- Invited talk (*Remote Sensing Applications in Agriculture*) to the Alabama Crop Management Association Meetings, Gulf Shores, AL (8/6/99).

- Invited talk (*Remote Sensing Applications in Agriculture*) to AL Soil and Water Conservation Society - Certified Crop Advisor Continuing Education Unit Session in Huntsville, AL (6/17/99).

- Invited participant in the NASA-USDA-Commodity Group Remote Sensing Workshop (8/12-8/13/99), Stennis Space Center, Bay St. Louis, MS. Participants included Undersecretary Gonzalez, USDA and NASA representatives, CSREES representatives, and rep's from the National wheat, soybean, cotton and corn commodity associations.

Professional Soil Classifiers of Alabama

- Meeting Organization
    - Developed and conducted a Soil Taxonomy Workshop (Spanish Fort, AL) for the Alabama Professional Soil Classifier Association (25 participants) (5/30/07).
        - Participated in AL Professional Soil Classifier Association meeting (5/31/07).
    - Hosted the Alabama Professional Soil Classifier Association annual meeting in Auburn (6/22-23/06). Approximately 40 participants from around the region.
        - Presented field tour on Innovative Soil Mapping at E.V. Smith (6/23/06).

- Invited presentation (*Highly Weathered Soil Development Using Fluvial Chronosequences*) at the 2019 Professional Soil Classifiers of Alabama Association (Millbrook, AL) (6/7/19).

- Invited presentation at the 2017 Annual Meeting of the Alabama Chapter of the Soil and Water Conservation Society Workshop: Geology, Soils, Erosion and Sediment Control, on Basic Soil Science (6/7/17, 80 attendees).

- Invited presentation (Basic Soil Science) to Geology, Soils and Erosion Sediment Control

Workshop in Clanton AL (8/20/13).

- Attended and provided an invited presentation (Precision Ag Management Zones) at the 2012 AL Professional Soil Classifier Association meeting at Weeks Bay (6/8-9/12).

- Invited presentation (Hydropedology Concepts) to Professional Soil Classifiers of Alabama at Soil and Soil Water Relationships Workshop (Prattville, AL). Approximately 120 environmentalists, engineers, soil classifiers in attendance (6/4/08).
    - Assisted in presentation of field sites at the field tour (6/5/08).

- Invited talk on Innovative Techniques in Soil Survey to Professional Soil Classifier Association, Gulf Shores, AL (6/5/03).

- Invited speaker on Soil Classification at the 37th Annual AL Society of Professional Land Surveyors Conference, Montgomery, AL (2/11/00).

- Invited instructor at AL Professional Soil Classifier/Alabama Department of Public Health workshop: On-site sewage evaluation- Instructed Soil Morphology section (9/30/99).

2. b. Technical Assistance

AAES representative to the NRCS-National Cooperative Soil Survey

- Provide soil characterization laboratory data, analyses, interpretation, and reports for NRCS Soil Survey Activity in Alabama. These data reported in Soil Survey reports published on Web Soil Survey.

Attendance of technical activities to facilitate Soil Survey activity including:

- Participated in USDA-NRCS First Coastal Zone Soil Survey work planning workshop in Savannah, GA (1/9 and 10, 2018).
- Appointed to USDA-NRCS Overall Steering Committee for the Soil Survey Division Focus Groups (2017-2020).
- Appointed to USDA-NRCS Densic Soils Working Group (2018) (multiple teleconferences).
- AU-AAES representative to NRCS National Cooperative Soil Survey Conferences: Kingstown, RI (6/9 to 6/13/19), Corpus Christi, TX (5/20 to 5/25/05), Las Cruces, NM (5/11to 5/16/09), Asheville, NC (5/24 to 5/25/11), Annapolis, MD (6/16 to 6/20/13)
- AU-AAES representative to NRCS Southern Regional Cooperative Soil Survey Conferences: Summersville, WV (6/24 to 6/28/18), Gainesville, FL (7/14 to 7/17/08), Biloxi, MS (6/7 to 6/9/04), Savannah, GA (6/3 to 6/6/02), Baton Rouge, LA (6/22 to 6/26/98).
- AU-AAES representative and invited presentation to AL Cooperative Soil Survey Work Planning Conferences (Auburn, AL) (11/20/19, 4/18/17, 7/30/15, 7/22/14, 4/3/12, 3/8/11, 10/21/09, 2/20/08, 3/14/07, 10/5/99, 8/19/98).
- Appointed to USDA-NRCS National Cooperative Soil Survey (NCSS) Strategic Plan Committee (9/14). Conference calls (10/29/14, 12/16/14, 1/20/15, 2/24/15, 3/10/15).
- Appointed to USDA-NRCS National Standards Committee (2013-2015) (teleconferences 5/2/13, 5/9/13, 5/23/13, 5/30/13).
- Appointed (5/11) to USDA-NRCS Soil Classification Field Guide Workgroup (teleconferences 9/14/11, 6/3/13, 7/23/13, 2/24/14). Resulted in Development and Publication of:

    - Soil Survey Staff. 2015. Illustrated guide to soil taxonomy. U.S. Department of Agriculture, Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/?cid=nrcs142p2_053580# illustrated V. 9/10/14
- Invited visit to USDA-NRCS National Soil Survey Center (Lincoln, NE) (5/28-30/13) for various discussions.
- Invited reviewer of "Field Book for Describing and Sampling Soils" (v 3.0) National Soil Survey Center, USDA-NRCS.
- Participant in USDA-NRCS Alabama Soil Survey National Program Review (3/8/10).
- Supervised project to digitize soil characterization data (300 pedons) from Auburn Pedology Laboratory and upload to NRCS National Database. Auburn selected to be a component of a nationwide program.
- Appointed by USDA-NRCS to the National Cooperative Soil Survey (NCSS) Advisory Group to the USDA-NRCS Director of the Soil Survey Division (teleconferences 5/12/06, 8/3/06, 10/30/08, 9/11/09, 3/23/11, 1/18/12, 1/9/13, 7/23/13).
- Invited reviewer by USDA-NRCS Soil Survey Director for *Benchmark Soil Sampling Guide for Dynamic Soil Properties* (v 1.0).
- Invited to participate by NRCS in nationwide field-validation of Soil Active Carbon Field Kits.
- Appointed as co-chair of National Cooperative Soil Survey-Southern Regional Soil Taxonomy and Standards Committee (07-11).
- Appointed to USDA-NRCS National Cooperative Soil Survey (NCSS) committee on Training and Marketing Soil Scientists for the Future.
- Appointed as AU's-AAES representative to Natural Resources Conservation Service State Technical Committee (2/8/05) (2/17/05, 9/27/06).
    - Represented AU-AAES at the NRCS State Technical Committee Meeting (5/22/03).
- Represented AU-AAES at NRCS region-wide water table study (7/22/03).
- AU-AAES representative to the State Soil and Water Conservation Committee meeting (9/15/99, 6/28/00, 3/21/01, 6/27/01, 9/19/01, 6/19/02, 6/18/03, 9/29/04).
- Attended and represented Auburn University-AAES and provided technical support at these NRCS Soil Survey field reviews:
    - Washington Co. soil survey review (5/3 to 5/4/10)
    - Lowndes Co. soil survey review (2/17/10).
    - Bibb Co. soil survey review (8/8/06).
    - Bibb Co. soil survey review (8/22 to 8/23/05).
    - Crenshaw Co. field assist (5/29/03).
    - Harris/Talbot Co.(Ga) soil survey review (7/9/02).
    - Soil sampling at Redstone Arsenal (8/30/01).
    - Barbour Co. soil survey review (8/31/99).
    - Hale Co. soil survey review (6/20/99).
    - Tallapoosa Co. soil survey review (5/26/99).
    - Barbour Co. soil survey review (9/1/98).
    - Hale Co. soil survey review (7/1/98 to 7/3/98).
- Participated in NRCS teleconference on Densic Soil Properties (12/7/06).
- AU-AAES representative to MLRA 13,14,15,16 and 18 NRCS-Soil Survey Board of Directors Meeting in Huntsville, AL (6/5 and 6/6/01).
- Assist NRCS personnel in developing the Legacy poster of Alabama soils (10/14/00).
- Assisted personnel from USDA-NRCS Soil Quality Institute on field investigations for

developing use-dependent database (11/30 and 12/1/99).
- Assisted in field review/inspection of Baldwin County soil survey with NRCS personnel (12/6 to 12/7/99).
- AU-AAES representative to the commemoration ceremony for the Soil Survey Centennial at the State Capital, Montgomery (7/2/99).

Professional Soil Classifiers of Alabama
- Appointed to Advisory Council of State Licensing Board (2000 to 2015) (3 terms)
  - Head of examining committee of State Licensing Board of Professional Soil Classifiers. Develop, administer, and grade examination (99-continuing) for State Licensing of AL Professional Soil Classifiers. Exam administered annually every June.
  - Represented AL Professional Soil Classifiers at meetings with the Professional Engineer's Board regarding ADPH on-site sewage disposal regulations (9/27/99 and 12/1/99)
  - Attend Advisory Council Meetings (twice yearly 2000-2015).
  - Chairman of Professional Soil Classifier Association Scholarship Committee (03-06).
  - Numerous correspondence/communications with persons interested in pursuing AL PSC licensing.
- Alabama Professional Soil Classifiers Association Member
  - Hosted the Alabama Professional Soil Classifier Association annual meeting in Auburn (6/22-23/06).
  - Attended the Alabama Professional Soil Classifier annual meetings in: Millbrook (6/7/19); Auburn (7/13-14/17) (assisted with field tour); Marion Junction (6/17/15) (hosted field tour at Blackbelt substation); Weeks Bay (6/8-9/12); Birmingham (6/23/11); Auburn (assisted with field tour)(6/5/09); Spanish Fort (5/31/07); Auburn (6/22-23/06); Autaugaville (5/6/04), Gulf Shores (6/5 - 6/6/03), Ft. Payne (6/20 - 6/21/02), Livingston (6/8 - 6/9/00), and Greensboro (5/20-5/21/99).
  - Co-hosted Alabama Professional Soil Classifiers Association annual meeting in Auburn, AL (6/7/01) and tour "Soils and Rocks of the Piedmont" (6/8/01).
  - Presented Professional Soil Classifier position at Alabama Public Hearing on proposed ADPH on-site sewage disposal regulations (11/23/99).

3. International Activities
- My international activity has involved instructing workshops, soil judging, advising graduate students, providing training and hosting international scientists, and attending International Union of Soil Science (IUSS) meetings.

Workshops
- Traveled to Guyana and met with representatives of Iwokrama International Ecological Preserve, University of Guyana, and Guyana Geology and Mines Commission (Ministry of Natural Resources) (March 23rd-March 30th, 2018).
- Participated in Auburn delegation to Cuba for workshop on "Developing strategies to evaluate land use management for sustainable food production". Participants included scientists from Auburn University, the Universidad to Agraria de La Habana (UNAH), Instituto Nacional de Ciencias Agricolas (INCA), and Instituto de Suelos (IS) (2/27/17 to 3/3/17).
- Provided workshop (*Fundamentals of Soil Taxonomy*) for Haitian Soils Cochran Fellowship Training in cooperation with the NRCS World Soil Resources, Soil Survey Region 7, and National Soil Survey Center staff (7/18 and 7/19/2016). Workshop included both classroom and field components and training. 14 Haitian scientists involved with training.

Graduate Student Training

- International graduate students I have advised include: Dr. Hector Causarano, Paraquay (06); Dr. Jose Terra, Uraguay (04); Dr. Iyassu Fesha, Eritrea (04); Dr. Catherine Gachengo, Kenya (08). I have or currently serve on graduate student committees of many others.

Short term programs

- Mentored Science w/o Borders student from Brazil: Luciano Bastos Moreira ("Brazil Scientific Mobility Program (BSMP) J-1 student exchange visitor for "Academic Training") (Summer 2015).
- Sponsored 3 month invited scholar research program for Marco A. de Mello Machado, Department of Soil Science, Center of Agricultural Sciences, Federal University of Parana, Brazil (10/01 to 1/05/02).
- Supervised Teklu Zeremichael from Soil Research Center in Eritrea in training program on Soil Survey in Eritrea (8 weeks) (3/29 to 5/28/99).
- Supervised Iyassu Ghebretatios Fesha from Soil Research Center in Eritrea in training program on U.S. Soil Classification correlation with FAO System and a preliminary GIS soil coverage of Eritrea (8 weeks) (1998).

International Visitors

- Provided Soil Tour for Dr. Muniz Olegario Ugarte, senior scientist with the Cuban Ministry of Agriculture's Soil Institute in Havana (11/15/15).
- Met with Dr. Hiatao from Chinese Research and Development Center for Grass and Environment in Beijing (10/23/09).
- Provided Precision Agriculture overview at E.V. Research Center to Chinese Agronomists (10/19/05).
- Provided Precision Agriculture overview at E.V. Research Center to Chinese Extension Agent Protective Cultivation Group (2/18/04).
- Chinese Extension Plant Protection Delegation tour of ALRIC GIS lab (8/15/01).
- Hosted Dr. Vyachesla "Slava" Torbik- International Programs Director, Altai State Agricultural University, Barnaul, West Siberia, Russia- on a soils/agronomy tour of EV Smith (5/17/01).

D. Service
1. University Service

1. a. University Service

- University Committees:
  - AU Faculty Dismissal (2017-2020).
  - AU Distinguished Professorships (2010-2012).
  - AU Alumni Professorships (2010-2012) (2018-2020).
  - AU Radiological Safety (2005-2008).
  - AU Undergraduate Research Fellowship (2004).
  - AU GIS User Group (Bob Cook-chair) (2002).
  - AU Instrumentation (2000-2002).
    - Committee administered AU Small Equipment Grant Program in 2000.
  - Agronomy and Soils Representative to Spatial Technology Committee (1999).
    - Committee established under Associate Provost Curtis to review a proposal by Department of Geography for Undergraduate Spatial Technology instruction.
- University search committees (external to college and department):
  - Geology Department Geomorphologist faculty position (2013).
- Faculty Representative for the University wide *Camp War Eagle Academic Representative*

program. Presentation representing faculty provided (5/23/19, War Eagle Welcome to students).

- Faculty Representative for University wide *Camp War Eagle Academic Representative program*. Two presentations representing faculty were provided (5/24/18, War Eagle Welcome to students) and (5/25/18, Academics at Auburn Presentation Panel to parents).
- Faculty Representative for University wide *Camp War Eagle Academic Representative program*. Two presentations representing faculty were provided (5/25/17, War Eagle Welcome) and (5/26/17, Academics at Auburn Panel).
- Mentor in the Auburn University Early Career Faculty Mentoring Program.
    - Assigned Dr. Brenda Ortiz as mentee (09-10).
    - Attended Auburn University Early Career Faculty Mentoring Program "Best Practices for Mentoring New Faculty" (3/3/10).
- Faculty representative to Alabama Water Resources Research Institute's- Alabama Water Resources Council (term from 7/1/99 to 6/30/01).
    - Committee reviewed proposals to the State Water Resources Competitive Grants Program.
- Invited reviewer:
    - ACES, Space Grant, Mini-Grant program (4/15/03).
    - U.S. Geological Survey and National Institute for Water Resources National Competitive Grants Program Review (2001).
    - AU COSAM program: Seed Funding for New Research Initiatives (2001).
    - AU Environmental Institute-National Remote Sensing Conference held at Auburn (1999).
- AU Graduate School outside reader for dissertations:
    - John D. Wigginton, Soil Organic Matter Formation and Sequestration during Floodplain forest succession (School of Forestry) (2000)
    - Alexandra Cunha, Influence of landscape patterns on spatial dynamics of larval fish in two rivers of the southeast United States (Fisheries) (2000)
    - Leonard James Rogers, A Dynamic Habitat Suitability Index Model Developed For American Oysters in Mobile Bay, Alabama (Fisheries) (2001)
    - Yalcin Tepe, Sodium nitrate as nitrogen source in aquaculture fertilizers (Fisheries) (2002)
    - Taworn Thunjai, Bottom soil quality in fish ponds of different ages in Thailand and suggestions for its management (Fisheries) (2002)
    - Rachel Jolley, Effects of Sedimentation on Productivity, Nutrient Cycling, and Community Composition in Riparian Forests Associated with Ephemeral Streams at Ft.Benning, GA (School of Forestry) (2008)
    - Marissa Daniels, A New Era for Forest Operations in the Southeastern Region of the United States (School of Forestry) (2018)

1. b. College Service

- Appointed to:
    - Administrative Review Committee (Dean, Paul Patterson) (2019-2020)
    - College of Agriculture Instructional Advisory Committee (2019-2021)
    - Review panel for the 2017 AAES Production Agriculture Research program.
    - College of Agriculture Strategic Plan Task Force (2016-2017).
    - Elected non-voting advisory member to Agriculture Committee of AU Board of Trustees (2010-2011) (BOT meetings 9/24/10, 11/12/10, 2/4/11, 4/15/11, 6/17/11).
    - Alabama Agricultural Experiment Station Research Advisory Committee (2008) (meeting 3/26/08, 2/1/10, 6/25/12).
        - AAES Equipment Grant Review Panel (meeting 4/25/12).
    - College committee on 9-month appointment and gift-fund policy (2004).

- College of Agriculture Promotion and Tenure Committee (2015-2017).
  - P&T Chair (2016).
  - Developed "Evidence of Scholarship" guidelines (2016).
- College/AAES search committees:
  - Director of Academic Advising (2017-2018).
  - AAES Soil Testing Director (2017).
  - Associate Dean of Instruction (twice) (2009, 2017).
  - Director of Blackland Prairie Research and Extension Center (2013).
  - Director of Gulf Coast Research and Extension Center (2010).
  - Superintendent of Farm Services portion of EV Smith (2006).
  - Biosystems Engineering Precision Agriculture faculty position (2015).
- President, Auburn University's Gamma Sigma Delta - Honor Society for the College of Agriculture (00-02).
  Secretary, Auburn University's Gamma Sigma Delta (99-00)
- Reviewed AAES Hatch or Mcintire/Stennis projects:
  - Dr. S. Brown (3/21), Dr. Yaniv Olshansky (5/21), Dr. S. McElroy (CSES) (2018), Dr. C. Anderson (FORY) (2015), Dr. E. Brantley (CSES) (2010 and 2014), Dr. N. Twarakavi (AGRN) (2009), Dr. J. Dane (AGRN), Dr. Fulton and McDonald (BSEN), Dr. E. Loewenstein (FORY) (2005).

1. c. Department Service

- Crop, Soil and Environmental Sciences search committees:
  - Lead Administrative Assistant (2021).
  - Crops Lecturer Position (2021).
  - Soil Chemistry faculty position (2018-2019) (chair).
  - Distance Education Specialist position (2016).
  - Agroclimatologist faculty position (2015-2016).
  - Extension Soil Management faculty position (2015-2016).
  - Environmental Soil Scientist faculty position (2014-2015) (twice).
  - Departmental Field technician (2015).
  - Student Services coordinator (2015).
  - Soil Physics faculty position (2014).
  - Soil Physics faculty position (2007-2008).
  - Soil Chemistry faculty position (2006-2007).
  - ALWRIC-GIS lab director (chair) (2003).
  - Soil Microbiology research associate (2005).
- Crop, Soil and Environmental Sciences committees:
  - Environmental Science committee (2015-2021) (chair).
  - Distance Education committee (2016-2021).
  - Space committee (2015-2021).
  - Policy and Strategy committee (2015-2021).
  - Undergraduate Curriculum committee (2001-2004, 2013-2015, 2016-2018).
  - Co-chair of Agronomy and Soils Positions committee (2006).
  - Department Scholarship committee (1999-2021).
  - Mentoring committees
    - Dr. Yaniv Olshansky (2020) (chair).
    - Dr. Rishi Prasad (2017).
    - Dr. Jasmeet Lamba (BSEN) (2017).
    - Dr. Di Tian (2016).
    - Dr. Matt Waters (2016).

        - Dr. Joyce Ducar (2015).
        - Dr. Thorsten Knappenberger (2014) (chair).
    - Elected by department to serve on Administrative (Department Head) review committee (2012 and 2018).
    - Department representative to the Gamma Sigma Delta Honor Society.
- Provided internal teaching peer review for:
    - Dr. Julie Howe's Soil Chemistry (AGRN 5300/6300) and Plant Nutrition (AGRN 7540) courses.
    - Intro Soils labs (Soil Mineralogy, Soil Classification) for Dr. Julie Howe (5/14).
- Co-developed CSES Departmental Strategic Investment from the Mission Enhancement Fund Proposal for an *Internationally Recognized Agroecosystem Carbon Cycling Position* (8/21). Co-Developed (w/ J. Koebernick) Mission Enhancement Fund proposal to hire an Eminent Scholar in Agroecosystem Carbon Cycling (8/21).

2. Professional Service

2. a. Service to Professional Associations

- AU-AAES representative to S-280 Regional Project (98-03): *Mineralogical Controls on Colloid Dispersion and Solid-Phase Speciation of Soil Contaminants*
    - Elected Secretary of S-280 Regional Project (6/00).
    - Hosted S-280 regional project meeting and field tour in Auburn (6/20-6/22/01).
- AU-AAES representative and member of IEG-22 (SCC-022): *Experiment Station Representatives to the National Cooperative Soil Survey*
    - Appointed to National Cooperative Soil Survey-Southern Regional Soil Taxonomy Committee at Southern Soil Conference (02-04, 07-11).
    - Elected secretary of IEG-22 (6/02-6/04).

Service activities for the American Society of Agronomy and/or the Soil Science Society of America

- Elected chair of Soil Science Society of America Division S-5 (Pedology): Chair-Elect in 2013, Chair in 2014, and Past Chair in 2015.
    - Chair Activities in 2014 included:
        - Planning, developing and coordinating the Pedology Division program at the Annual SSSA meetings at Long Beach, CA (10/31 to 11/15/14).
            - Meeting activities included coordinating two symposia and five topical sessions, a colloquium, business meeting, and associated activities.
        - Other chair activities included developing annual report on division activities, administering the Pedology Division SSSA listserv, committee membership (described below), etc.
    - Committees associated with Chair:
        - S-Nominations Committee for Pedology Division Officers Member 2014- 2016
        - S-Nominations Committee for Fundamental Soil Science Group Rep. to the Board Member 2014
        - S-101: Nominations for President-Elect Committee Chair, Soil Pedology Division 2014
        - S- Nominations Committee for Pedology Division Officers Chair 2014
        - S- 711: 2014 Program Planning Committee

- Elected chair of Soil Science Society of America Division S-9 (Soil Mineralogy) (duties started11/15/02).
    - Organized Soil Mineralogy Division (S-9) technical program for 2004 SSSA meetings.

- Organized Soil Mineralogy (Division S-9 of SSSA) retreat in unison with the 2004 American Society of Agronomy/Soil Science Society of America meetings in Seattle, WA (10/30-31/04).
- Member of S111.09 Nominations committee for Division S-9 (05-07).
- Program Planning Committee 2004.
- Attended and participated in S-9 Soil Mineralogy retreat in Breckenridge, CO (10/30-11/1/03) and Park City, Utah (11/5-11/6/05).
- Coordinated S-9 graduate student Dixon award selection (05).

- Appointed to Soil Science Society of America Soil Taxonomy Task Force (S201.4.12).
  - Developed and submitted proposal to amend portions of Soil Taxonomy related to identification of diagnostic horizons found in certain temperate, subtropical and tropical soils (kandic and oxic horizon) (approved 2019).

- Member, Arctic Soils Working Group (S838) (2014-2015).

- Associate Editor (S-5) and Editorial Board (S302) of the Soil Science Society of America Journal (6/1/05 to 12/31/07). In this capacity, I handled several manuscripts/yr through the publication process.
  - Received Citation of Excellence for Associate Editors for Soil Science Society of America Journal (2007).

- Associate Editor SSSA Publication: Soil Survey Horizons (1/1/2000 to 1/1/2002).
- Appointed to Soil Science Society of America S-5 (2001 business meeting, Charlotte, NC) committee on ARCPACS and Consulting Soil Scientists (10/23/01).
- Appointed to American Society of Agronomy committee to Select SSSA presidential nominations (A101) (05).
- Appointed to Soil Science Society of America (SSSA) Soil Judging committee (S425) (03-05) (chair 05).
- Appointed to Soil Science Society of America (SSSA) Soil Micromorphology committee (S884) (04).
- Appointed to American Society of Agronomy (ASA) committee to select ASA presidential nominations (A101) (05).
- Selected as exam proctor for AU for CSSE-ARCPAC examination (04-08).

- Appointed to Editorial Board for Geoderma (2011-2017)

- Manuscript Reviewer for: Soil Science Society of America Journal, Agronomy Journal, Journal of Env. Quality, Journal of Soil and Water Conservation, Clays and Clay Minerals, Catena, Geoderma, Soil Science, Soil and Tillage Research, Journal of Environmental Management, Journal of Natural Hazards, Environment, Development and Sustainability, ARS Internal Manuscript Reviews, USFS Internal Manuscript Reviews, Chapter for CRC/Lewis book on Biogeochemistry of Trace Elements, Chapter for Mineralogical Methods monograph on Selective Dissolution Techniques for Mineral Analysis of Soils and Sediments, Chapter for Applications of GIS in Agriculture (ed. Pierce) for CRC Press, Chapter for Handbook of Soil Science, Processes of Pedogenesis chapter, Chapter for Encyclopedia of Soil Science (Iron oxides)

- Society Memberships
  - American Society of Agronomy
  - Soil Science Society of America

- ARCPAC Certified Professional Soil Scientist
- Alabama Professional Soil Classifier

2. b. Service to Academic, Industry and Government Institutions

- Invited reviewer of USDA-Agricultural Research Service (ARS) Soil Dynamics Research Unit, *Conservation Systems to Improve Production Efficiency, Reduce Risk, and Promote Sustainability*, five-year workplan on Conservation Systems Research (1/30/18).
- Participated in video for Alabama Cooperative Extension System Soil Health video (1/25/18).
- Presented *Soils* to Pike Road Elementary School 4th graders. Approximately 80 students attended (3/9/16).
- Presented workshop on Soil Texture at the 2016 High School Spring Judging Clinics. There were approximately 50 participants (teachers and students) from Alabama High Schools (2/17/16).
- Presented workshop on Soil Texture at the 2015 High School Spring Judging Clinics. There were 45 participants (teachers and students) from Alabama High Schools (2/11/15).
- Invited presentation (Basic Soils) to Wetland Environmental Land Projects (http://www.welpprojects.com/) youth education workshop, Guntersville, AL (6/3/15).
- Invited talk on soils to Auburn Camellia Club (5/9/11).
- Invited national reviewer for Texas A&M Department of Soil and Crop Sciences undergraduate curriculum review (Soil Science component). Web based assessment consisting of three separate exercises (9-11/09).
- Report on published soil survey information for Gopher Tortoise suitability to Alabama State Lands Division (Mr. Greg Lein) on a 1266 acre Mobile County site.
- Organized seminar presentation by Dr. Jose Terra, Research Scientist from Instituto Nacional de Investigacion Agropecuaria, Uruguay, on "Conservation Systems in Uruguay" (7/25/08).
- Shaw group (Owen, Arriaga), in cooperation with AUEI, coordinated Soils Field Day for 5th and 6th graders (55 total students) (4/26-27/07), 6th graders (25 students) (10/12/07), 5th and 6th graders (46 total students) (10/15-16/09), and 5th graders (41 total students) (4/20-21/11) from D.C. Wolfe Elementary (Shorter, AL).
  - This activity was part of a Mid-South RC&D Grant Environmental Science and Arts Program, Auburn University's Environmental Institute.
  - AUEI reported our group participated in nine events over the years and interacted with 270 children.
- Selected as Agronomy and Soils faculty member to meet with the USDA Civil Rights Compliance Review (3/8/07).
- Assisted Chatom (Washington County) city officials on Spray Irrigation of Municipal Waste site problem (6/22/07).
- Completed 2006 Assessment of Research Doctorate Programs Survey administered by the National Research Council (NRC) (1/26/07).
- Hosted these groups (Shaw group) in tours of the Alabama Land and Water Resource Information Center (ALWRIC):
  - Student group from COA learning community (AGRI 1000) (2/3/05, 2/7/07, 2/7/08).
  - AL Association of Conservation District Conservation Practices and Research Committee (7/19/00).
  - Peanut commodity group (4/18/00).
- Represented AU-AAES at 2006 East Alabama Agriculture and Industries Tour hosted by Congressman Mike Rogers. Toured several Ag operations in East, AL (8/23/06).
- Hosted James Wallner at USDA-ARS, Congressional Staffer for Congressman Terry Everett (11/13/06).
- Presented EV Smith field-scale agronomic research to legislative aide to Senator Sessions (5/31/05).

- Organized visit to department and seminar by Dr. Clint Truman: USDA-ARS, SE Watershed Laboratory, Tifton, GA (4/16/99).
- Provided assistance to Larkin Farms (Lawrence, Co.) on precision agriculture applications (11/05).
- Provided written review of "Critical Research Needs" for the USDA-FS Forest Operations Research Laboratory, to Dr. Robert Rummer, Auburn, AL.
- Attended USDA Forest Service Southern Research Station 500 Publication Awards ceremony (11/13/01).
- Visited logging sites with Mead-Westvaco representatives to review soil mapping program (8/19/02, 1/13/99, 2/23/99, 2/24/99).
- Provided laboratory analyses and forensic interpretation for a Dekalb County Sheriff's department investigation (98).
- Provided recommendation letters (list available on request) for students, colleagues and peers (250+ since 2001, list available)
- AU-AAES representative to Alabama Department of Public Health (ADPH) Onsite Sewage Management Committee. In this capacity:
    - Invited speaker (Soil Hydrology and Redoximorphic Features) at Alabama Department of Public Health, 4th Environmental Health Symposium, Opelika, AL. (2/4/15)
    - Met with AL Dept. of Public Health representative (David Gray) for a 1-hr discussion of saprolite hydraulics (8/28/07).
    - Site visit for AL Dept. of Public Health in Elmore County (Elmore) (1/16/07), Cullman County (9/21/12).
    - Site visit to proposed development for AL Dept.of Public Health (Marengo County) (7/6/06).
    - Invited speaker at 12th annual Alabama Department of Public Health on-site Sewage Treatment and Disposal Conference (Soils lab: A refresher course for site evaluators) (1/23/01).
    - Attended committee meetings (1/20/00, 8/04/00, 6/28/01, 1/16/02).
    - Visited failing onsite sewage system sites with ADPH Environmentalists (Lee, Marshall, Tallapoosa counties) (8/27/99, 8/17/00).
    - Met with ADPH personnel regarding soils sections of proposed ADPH OSDS regulations (8/24/01 and 4/5/02).
    - Reviewed video script by ADPH on on-site sewage disposal systems (1/28/00).
    - Provided written comments (via e-mail) to ADPH personnel regarding proposed OSDS regulations (1/21/02).
    - Attended portions of the 13th (1/16 and 1/17/02), 11th (1/19/00) and 10th (1/21/99) annual AL Dept. Public Health On-site Sewage Treatment and Disposal conferences.

- Grant Reviews
    - Invited review of Multistate Project: NE_TEMP1938, "Carbon Dynamics and Hydromorphology in Depressional Wetland Systems (2/19).
    - Invited review of Multistate Project: NE_TEMP2162-Hydropedology of Vernal Pool Systems (2/14).
    - Invited review for National Science Foundation (NSF)-Division of Earth Sciences Major Research Instrumentation (NSF 13-517) program, proposal # 1337450, Acquisition of a Powder X-Ray Diffractometer for Research and Teaching in Earth and Environmental Sciences at Rutgers University in Newark (5/13)
    - Invited review of CSREES proposal (Multi-scale Assessment of SOC Dynamics in Agricultural Landscapes) (7/9/09).
    - Invited review for National Science Foundation (NSF)- Career Proposals, proposal #

0953559, The Importance of Aeolian Deposition in Mid-Atlantic (11/09)

- Invited review for SARE Grant program (Pigeon Pea: A multipurpose, drought resistant forage, grain and vegetable crop for sustainable southern farms) (completed 1/2/07).
- Invited review for CSREES Multistate Research Project "Hydropedology: Genesis, properties and distribution of hydromorphic soils" (completed 3/31/04).
- Invited review for CSREES Multistate Research Project "Hydropedology: Genesis, properties and distribution of hydromorphic soils (NE_TEMP1601)" (completed 2/17/09).

6

Agenda Item Summary

Date: October 6, 2022

Agenda Item: President's Compensation

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTERS: Chair Harper

PURPOSE & KEY POINTS: At the conclusion of the President's evaluation, the Executive Committee is responsible for making a recommendation to the Board on the President's compensation.

Agenda Item Summary

7.1

Date: October 6, 2022

Agenda Item: New Academic Program Proposal (NAPP) for Bachelor of Science (B.S.) in Music

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTERS: Provost Bruce

PURPOSE & KEY POINTS: The new degree program for which approval is sought is a Bachelor of Science (B.S.) degree in Music. The proposal is led by faculty in the School of Music in the College of Fine Arts.

The School of Music currently offers Bachelor's degrees in music education and music performance. While these degree programs continue to be successful, there is a growing need for a new program that provides students with greater curricular flexibility, broader content, and training for careers that do not fit the traditional models of music education and performance.

We seek to add the B.S. degree to expand degree offerings that capitalize on the strong Science, Technology, Engineering, and Mathematics (STEM) programming already in place at Tennessee Tech University. The new degree program is designed to serve our student population as we experience an increase of transfer students, students entering with significant dual-enrollment credits, and/or students not wishing or unable to complete the requirements of the current Bachelor of Music degree.

The School of Music is a NASM (National Association of Schools of Music) department; the proposed B.S. degree will meet both University and NASM standards to ensure our continued accreditation.

Enrollment and Financial Projections:
Very conservative projections of 8 in year 1 and growing to approximately 30 by year 5.

The School of Music will utilize resources presently available to develop, launch and support the new proposed program; no additional faculty, space, or significant equipment will be needed initially to successfully implement the curriculum. Thus, the additional academic costs to the School of Music for launching the new program are minimal (approximately $5000 per year) while the full tuition/fee revenue for the University is projected to be approximately $200,000 per year by year 3 and approximately $300,000 per year by year 5. A portion of these revenues may be used for equipment and technology purchases/upgrades to support the program.

7.1

LON and NAPP

Date of LON Submission:	January 14, 2021 Revised: May 18, 2021
Date of NAPP Submission:	November 19, 2021 Revised: August 15, 2022 Revised: September 9, 2022
Institution:	Tennessee Tech University
Title of Program :	Bachelor of Science in Music
CIP Code:	50.0901
Academic Liaison	Colin Hill Director, School of Music Tennessee Tech University Box 5045 Cookeville, TN 38505 931-372-6406 cjhill@tntech.edu
Proposed Implementation Date:	Spring 2023

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Name of Proposed Program:

Bachelor of Science in Music (B.S. Music)

CIP Code:

50.0901

Proposed Implementation Date:

Spring 2023

Academic Program Liaison (APL) Name and Contact Information:

Dr. Colin Hill, Director
School of Music
Tennessee Technological University
cjhill@tntech.edu
(931) 372-6406

Background Concerning Academic Program Development:

The Tennessee Tech School of Music currently offers Bachelor's degrees in music education and music performance, as well as four minors: music history, music performance, music technology, and music theory & composition. While these degree programs continue to be successful, there is a growing need for a new program that provides students with greater curricular flexibility, broader content, and training for careers that don't fit the traditional models of music education and performance.

The School of Music seeks to add the Bachelor of Science degree to expand degree offerings in the College of Fine Arts and create new interdisciplinary collaborations with STEM programs. This new degree will provide opportunities for students who wish to acquire a liberal arts degree while also receiving strong musical training. In addition, it will serve transfer students and/or students not wishing or unable to complete the requirements of the rigorous professional Bachelor of Music degrees, which have little curricular flexibility; thus, we anticipate higher student retention and enrollment as a result of this new degree offering.

The School of Music is a NASM (National Association of Schools of Music) department; the proposed Bachelor of Science degree will meet both University and NASM standards to ensure our continued accreditation.

Purpose and Nature of Program:

There is a growing need for a new program that provides students with greater curricular flexibility, broader content, and training for careers that don't fit the traditional models of music education and performance. The purpose of this program is to broaden the educational opportunities and graduation pathways for students seeking an accredited degree in music.

Tennessee Tech's current B.M. degrees lack curricular flexibility. This creates problems for transfer students, music education students who struggle to meet licensure benchmarks, and performance

majors whose musical abilities are not competitive in the open market. All three of these student groups would greatly benefit from a B.S. degree that features a more flexible academic curriculum.

Since the implementation of the TN Promise, the School of Music has seen a rise in transfer students. Our current B.M. degrees do not allow transfer students to complete the degree program in two years due to strict and abundant course requirements. The curricular flexibility of the proposed B.S. degree will aid in the transfer of non-institutional credits, allowing these students to graduate in a timelier manner. Further, the proposed BS degree will better serve non-traditional students, who may not be able to enroll as full-time students or who struggle to meet the rigorous demands of the professional B.M. degrees.

Currently, the B.M. degree in music education is Tennessee Tech's most popular music degree program. Unfortunately, the licensure benchmarks that occur during the junior year have been problematic for many students, contributing to a low School of Music retention rate of 61.5% over the last four years. Retention issues among the junior and senior class are overwhelmingly attributed to failing the PRAXIS subject assessment tests. This standardized exam serves as a pre-requisite for admittance into the teacher education program (student teaching). Over the last 5 years, 36% of TN Tech students fail the PRAXIS on their first attempt. Of those 36% students who fail their first time, 37% of them never pass it and change degree programs. The proposed B.S. degree will provide these students the opportunity to graduate with a music degree, rather than being forced to change academic disciplines.

Music students who do not wish to pursue a career in music education, or who have a change of heart during their music education degree program, are forced to pursue a degree in music performance, as this is our only other B.M. music degree offering. Honestly, this a poor fit for many of these students. A large contingency of our incoming students graduated from small, rural band programs and are below the national standards of an incoming music major. While most are able to complete the degree requirements of the B.M. music performance degree and show substantial improvement, many still struggle to survive the highly competitive freelance market of Nashville (the closest metropolitan area). The proposed B.S. degree is better fit for many of our current performance majors, preparing them for a variety of music industry jobs that are not performance-based.

Students who graduate from the proposed degree program will be prepared to assume a variety of positions, depending on their skillset and areas of study. Cookeville has a very active arts community, and there are a number of job opportunities for these potential graduates. Locally, these include companies such as the Cookeville Performing Arts Center, Bryan Symphony Orchestra, Cumberland County Playhouse, Backdoor Playhouse, Learning Tree Agency, Muddy Roots Music Festival, Harper's Soundstage and Recording Studio, Peachtree Learning Center, Steven's Street Music Academy, Crossroads Music, etc.

Regionally, the quantity and variety of potential employers grows exponentially. Nashville, Knoxville, Chattanooga, are all home to many performing arts companies, orchestras, live music venues, music agencies, independent artists, art academies, music festivals, religious organizations, sound recording/reinforcement industries, art organizations, instrument manufacturers, motion picture and video industries, retail and repair shops, etc.

Below are several current job postings that graduates from this degree program would be qualified to fill. Full job descriptions can be found in Appendix 3: Letters of Support and Current Job Postings.

Artist Relations Manager (Keyboards)
Yamaha
Franklin, TN 37064
Full-time

Summary of Duties/Qualifications:

- BM, BS, or BA College degree in music business or related field
- Maintain a strong rapport with artists, artist management and production.
- Arrange travel and prepare presentations.
- Collect, organize, and store artist assets – biographies, photos, approvals, & quotes.
- Write monthly reports, database management, special event organization
- Planning, developing, and administering of programs to promote sales.

Museum Director
The Blues Foundation
Memphis, TN 38103
$48,000 - $53,000 a year - Full-time

Summary of Duties/Qualifications:

- Requires knowledge of blues and blues history
- Bachelors Degree Preferred
- Oversee and maintain museum exhibits, including artifacts and interactive displays.
- Manage memorabilia collection.
- Develop relationships with donors past, present, and future
- Managerial Duties that include: Interview, hire, train, schedule Visitor Services employees and docents, schedule staff, handle time-off requests, and account for employee hours via Square.

Rotational Assistant - Country Music / Contemporary Music
Endeavor Operating Company, LLC
Nashville, TN 30723
$41,000 - $54,000 a year - Full-time

Summary of Duties/Qualifications:

- Strong understanding of and enthusiasm for the music industry
- Must be an excellent multi-tasker and have proven problem-solving abilities.
- Demonstrates accuracy and thoroughness in execution of assigned tasks.
- Maintaining schedules with high attention to detail
- Reviewing show contracts
- Covering desks for assistants
- Completing department projects

Coordinator, Music Touring
APA Agency
Nashville, TN 37219
$41,000 - $52,000 a year - Full-time

Summary of Duties/Qualifications:

- 1-2 years experience working in the entertainment industry required
- Prior Agency/Management or Venue experience is highly preferred
- Bachelor's Degree from an accredited university
- Coordinate tour announcement schedules
- Review and approve local marketing assets, advertising, promotions, and social media tactics for all domestic shows.
- Generate deal memos, contracting and reports
- Keep track of contracts and deposits.
- Invoicing and accounting

While there are many employment opportunities both locally and regionally, our students are not able to assume these positions due to their lack of training. Unfortunately, music students in the B.M are trained in music education or music performance, and lack skills in outside areas (business, marketing, technology, or management) due to the rigorous and narrow focus of the B.M. degree.

As the music industry has evolved, the traditional B.M. degrees in music education and music performance can have a seemingly narrow focus. For this reason, this B.S. degree will create natural and less restrictive opportunities for collaboration with Tennessee Tech's strong STEM programs. Students will be given the tools to creatively marry their artistic background with their love of science, technology, engineering, and math.

Conversely, the proposed degree plan may have the potential to appeal to STEM students who may choose to double-major and/or for whom the STEM specific program, ultimately, might not suit well. Thus, the proposed BS is the more logical and appropriate degree offering given the STEM focus and culture of TN Tech.

This contemporary and wide-ranging interdisciplinary approach will prepare students for numerous career paths of the ever-changing music industry. Further, the COVID-19 pandemic has had a profound impact on many music education and performance-based positions. While these affects are hopefully temporary, there will certainly be long-term implications and permanent re-structing of many traditional career paths in music.

The curricular flexibility of the B.S. degree allows students to pursue a minor in a complementary field of study. This flexibility enables students to further diversify their skillset while also maintaining eligibility for Federal Financial Aid. Currently, our B.M. degrees are void of electives, eliminating the possibility of Federal Financial Aid for any courses outside of the B.M. music curriculums. The B.S. degree will provide the mechanism to offer curricular flexibility alongside the financial support that many of our students need and rely on. However, unlike an Interdisciplinary Studies degree, which focusses on two primary areas of study, the B.S. in music will give students the opportunity to complete a variety of courses that support their individual career goals. For this reason, the proposed B.S. degree does not pose a threat to the existing Bachelor of Music in Interdisciplinary Studies; they are vastly different degree programs.

Alignment with the State Master Plan and Institutional Mission and Strategic Plan:

In accordance with the State Master Plan for higher education (2015-2025) and its overriding function, the proposed Bachelor of Science in music will support the state's initiatives for student success, family prosperity, and the future workforce.

Student Success

Academic Readiness: The School of Music currently requests that all prospective students participate in a music audition prior to enrollment. This assessment enables faculty to accurately advise students about their potential success in the newly proposed degree program, prior to enrolling. This pre-enrollment interaction also gives prospective students an opportunity (and a contact) to ask questions about various programs of study. Similar pre-enrollment activities that assist with postsecondary readiness include complimentary private lessons and VIP visits. VIP visits are a campus-wide program that includes tours, informational meetings, and general academic advisement.

Access to Higher Education: The proposed B.S. degree will provide a new level of access to higher education, when compared with our current degree offerings. Currently, our B.M. in Music Performance and B.M. in Music Education are accessible to a particular type of student but fall short for transfer students and students who have a hard time meeting the benchmarks of these rigorous professional Bachelor of Music degrees. The proposed B.S. degree will allow transfer students to complete a bachelor's degree in 4 years (2 years at Tennessee Tech) and serve students who want to major in music but don't have the necessary experience or abilities to be successful in the existing Bachelor of Music degrees.

Completion: The proposed B.S. degree will provide a graduation pathway for students who have a difficult time matriculating through the existing Bachelor of Music degrees. We routinely have students who struggle to meet upper-level benchmarks of the B.M degrees and the proposed degree would allow students to continue/graduate with a music degree.

In addition, there are several common practices and resources that would be available to these students to further promote the completion of their degree. Some examples include a music specific advisor who specializes in our degree programs, a convocation course that features guest speakers on various topics, a weekly rep/studio class for each applied area, free tutoring for all music courses, and diagnostic exams for our incoming freshman/transfer students to promote accurate placement in courses and ensembles.

Family Prosperity

Affordability: The School of Music has a healthy music scholarship budget that will be available to students enrolled in the proposed B.S. in Music degree. In addition, the School of Music also has a financial assistance program that assists music majors who can't afford to stay enrolled. Lastly, there are several merit-based scholarship opportunities for current students who need aid beyond their 4-year scholarship package. This includes scholarships for elective ensemble participation and one-time endowed awards for our high-achieving students.

Transparency: The School of Music is extremely communicative about alumni accomplishments and possible career paths in music. In addition to providing up-to-date resources on alumni job placement, the School of Music hosts 2 alumni events a year that enable current students to interact/network with alums who are working in the field of music. These activities aim to provide transparency to current students and their families about realistic expectations upon graduation.

Outreach to Adults: The School of Music hosts nearly 250 free concerts on campus each year. These events are widely attended by students, staff, faculty, and the Cookeville community. While these concerts primarily function as pedagogical assessment, they are also an opportunity to expose adults to our degree programs and promote music education in our community. In addition, many of our music faculty give educational seminars at the Putnam County Library for their monthly events.

The Future Workforce

Future of Work: While our professional B.M. degrees adequately prepare students for traditional positions in music education and music performance, we have an increasing population of students who are seeking alternative opportunities in the field of music. This includes various music industry positions such as arts management, instrument development/maintenance, artist relations, sales, etc. In certain circumstances, the proposed degree even allows them to create their own niche positions/careers by combining various interdisciplinary STEM experiences.

CTE and Work-Based Learning: The proposed B.S degree includes a capstone senior project that encourages the students to create relationships and experiences with industry partners. Our music faculty is extremely well-connected with various organizations and individuals throughout the region and this capstone experience will provide students with various real-world experiences in their field.

Academic Program Approval: The proposed B.S. degree has undergone a series of revisions and improvements over the last four years. The first draft of this degree program was initiated by music faculty in 2019, and a LON was submitted to THEC in January 2020. Due to accreditation concerns expressed by NASM (National Association of Schools of Music), the LON was withdrawn and re-submitted to THEC in January of 2021. This second submission of the LON was substantially improved, incorporating changes based on various internal Tennessee Tech committees, guidance from NASM, and suggested edits from THEC. Unfortunately, the second attempt was unsuccessful due to concerns regarding a proposed emphasis in Live Audio Engineering. For this reason, the proposed emphasis in Live Audio Engineering has been been removed from this proposal and will be pursued at a later date. For these reasons, this is our third attempt at THEC approval. While this process has been lengthier than anticipated, it has resulted in the best version of this degree proposal. We are confident that this proposal meets the needs and expectations of prospective students, our institution, our accrediting body, and THEC.

In addition to fulfilling the State's Master Plan, the proposed B.S. in music supports the areas of TTU's new strategic plan, Tech tomorrow, listed below:

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

> The liberal arts nature of this degree possesses curricular flexibility that has potential to meet the needs and interests of all types of students at different phases of their undergraduate academic career, while also providing a meaningful and rigorous music education.

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

> The new degree program will afford students the opportunity to expand and apply their music practices with other disciplines. The degree curriculum possesses the flexibility to encourage and allow meaningful study in other disciplines outside of the College of Fine Arts to foster cross-disciplinary inquiry, dialogue, and innovation in unique ways.

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

> The proposed new degree program will not require additional resources for the School of Music to implement a meaningful, rigorous and relevant curriculum that meets NASM standards. It is expected that the new degree program will aid in both recruitment and retention while maintaining consistent departmental operating costs. No additional facilities or significant equipment is required or anticipated for this degree.

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

> This liberal arts degree will have broad applicability for graduates entering the workforce, allowing students to combine their study of music with another area of focus (minor) and electives. Thus, providing opportunities for students to tailor their education to their needs, interest or to strengthen their employability. With the inherent curricular flexibility, students have better opportunity to develop partnerships in the community to gain meaningful and useful experiences in order to better prepare themselves for entrance into the workplace.

Institutional Capacity to Deliver the Proposed Academic Program:

The School of Music will utilize resources presently available to develop, launch and support the new proposed program; no additional faculty, space or significant equipment will be needed initially to successfully implement the curriculum. While our current BM degrees are healthy, some of our courses are not currently at full enrollment capacity, thus we are able to accommodate additional students who are interested in pursuing the Bachelor of Science degree in our current course offerings.

As the proposed degree program experiences growth, we will employ the teaching assistance of locally qualified individuals to offer additional course sections. Program revenues will support the salary of any additional adjunct faculty and needed equipment (laptop). As such, beyond implementing a new

marketing and promotion program to include the new academic program, there are minimal costs associated with the new degree. Our annual NASM accreditation fees will not be affected by the expected growth in the program. The program will be supported via program revenue.

All expenses are detailed in the budget projection chart on page 25.

The proposed academic programs place primary emphasis on the process of making music, which is unique compared to all other programs at Tennessee Tech University. Thus, it will not pose a threat to enrollment in pre-existing majors/programs at Tennessee Tech.

The large elective body of courses will support departments campus wide. The interdisciplinary nature of the degree holds potential for course development and collaboration in key areas such as technology, business, management, language, history, engineering and marketing. It is our strong desire to create opportunities for cross-disciplinary collaborative agreements across campus as it will benefit our students, our program and the University and mimic the interdisciplinarity of today's work environment.

Program enrollments used in the financial projections are shown in the following table.

	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Year 1	8	6	4	2	0
Year 2	0	8	6	4	2
Year 3	0	0	10	8	4
Year 4	0	0	0	12	10
Year 5	0	0	0	0	14
Total # Enrolled	8	14	20	26	30

See attached THEC Financial Projection form for estimated revenues and expenses in Appendix 4.

Existing Programs Offered at Public and Private Tennessee Institutions:

Based on current THEC Academic Program Inventory for TN Board of Regents and UT systems, there are two Bachelor of Science in Music degrees offered that have similarities to this prosed program: CIP Code 50.0901

http://thec.ppr.tn/gov/THECSIS/Research/Research.aspx?TabIS=API+Search

Austin Peay State University: B.S. Music
Tennessee State University: B.S. Music

While these programs are offered at public institutions within a 100-mile radius of TTU, the institutions are considerably different from TTU in curricular scope and flexibility. In addition, the proposed program has unique characteristics of interdisciplinary nature and collaborative arrangement in curriculum as well as course development. Thus, it is believed that these programs/institutions will not present

competition or have adverse effect on enrollment or retention of students in the proposed Bachelor of Science at Tennessee Tech University.

When further comparing the curriculum of the proposed degree with the B.S. in Music degrees from Austin Peay State University and Tennessee State University, there are significant differences. The Tennessee State curriculum places a large emphasis on music theory, music history, and foreign languages. All three areas account for 32-33 credits (15 music theory, 11-12 music history, 6 foreign language). Contrastingly, the proposed degree only requires 16 credits in these three areas (10 music theory, 6 music history, 0 foreign language). Fewer credits in these areas allows candidates of the proposed degree to enroll in a broader academic curriculum.

The proposed degree also varies significantly from TSU and APSU's B.S. Degrees when examining elective credits. TSU's B.S. Degree requires 26 elective credits and Austin Peay State University's B.S. Degree requires 24 elective credits. The proposed degree allows 34 credits, promoting strong curricular flexibility. Further, these elective credits are worked into the degree schedule starting the students' first semester. This early integration of electives will allow students to engage in a deeper study of their secondary area.

Lastly, when compared to TSU and APSU, the capstone project of the proposed degree is much different in scope. At TSU and APSU, the capstone project must be a senior recital. Since the proposed degree encourages a broader area of study, (up to 34 credits in areas other than music) a senior recital does not fit the spirit of this degree. Instead, the capstone project is defined as a senior project. While performing a music recital is certainly permitted, the broader scope of a "senior project" allows students to immerse themselves in other cross-disciplinary areas of interest or research.

Feasibility Study:

1. Introduction

The School of Music at Tennessee Tech is submitting a proposal for a Bachelor of Science in Music. This proposed degree includes core music courses as well as electives students can choose that will help them pursue a specific career.

This feasibility study will assess the proposed degree program in the following areas, as outlined in the THEC guidelines: student interest, local and regional demand/need, employer need/demand, future sustainable need/demand, and in some cases, a section for external research. In some instances, there may be an unavoidable overlap of information provided across the regional and employer demand. This is because the demand for labor, whether regional or state-level, can be understood to be generated by firms.

2. Potential Student Interest

2.1 - Survey Overview

This report summarizes the results of a survey instrument used to assess student interest of the proposed degree program. The survey instrument was constructed to parallel standard surveys used by higher education institutions to appraise students' attractiveness to a potential degree program. In

accordance with the Tennessee Higher Education Commission (THEC) approval process of new academic programs, the School of Music has employed Tennessee Tech University (TTU) College of Business faculty to collect and summarize prospective student interest data as a part of a feasibility study. The results from the survey instrument, in compilation with other report information, will be used to determine the program's potential.

2.2 - Survey Methods

The survey was distributed to current TTU undergraduates majoring in Music. The undergraduate students were separated into two groups. Students classified as freshman, sophomore, and junior were surveyed separately as group one and senior level undergraduates as group two. The online survey instrument was developed using Qualtrics, "a powerful and multifaceted on-line data collection/survey tool".[1] The survey was administered via email invitation to students from March 27, 2019 through April 5, 2019. During this period, recipients were reminded of the survey and encouraged to participate. Each survey group received the same survey instrument. The following description was sent to all students.

"The School of Music is in the process of gaining approval to offer a Bachelor of Science in Music degree. This liberal arts degree would require the core music classes (harmony, aural skills, piano proficiency, applied study at 1 hour credit, music history, etc.), general education courses, plus several elective hours. With these electives, students could pursue a minor in another area of study, or apply them to music courses in their area of interest. The degree will be an option for new students and also an option for current students who decide they do not want to pursue music education or performance, but want a degree in music."

The survey questions were designed to gauge student interest in the proposed degree program. Questions addressed key areas of importance such as students' strength of interest, potential date of enrollment, and the benefits of the program to the students' future endeavors. Demographic information was collected and students were permitted to share their viewpoint of the program in an open-ended question format.

2.3 - Description of Sample

Current undergraduates of Music were invited to participate in the survey. Of the 80 freshman, sophomore, and juniors surveyed, 34 responded for a 42.5% response rate. Twenty-three of the forty-four undergraduate seniors yielded response rate of 52.27%. The table below summarizes the data collected from survey instrument.[2]

2.4 - Results

The response rates of both groups were satisfactory for the purpose of this study. The questionnaire required students to select an answer choice to proceed to the next question. The questionnaire contained 8 questions. Seven questions were multiple choice and the eighth question was open-ended. The survey began with the question, "[h]ave you read the description of the proposed Bachelor of Science Degree in Music?" The purpose of the question was to ensure that all participants understood

[1] https://www.tntech.edu/institute/services/qualtrics-software

[2] Approximately 1 undergraduate freshman, sophomore, junior participant and 4 seniors partially completed the survey; however, their inputs are retained in the results.

the proposed program and could informatively answer the questions that followed. If the student was not aware of the program description, he/she was given the option to review it before continuing the survey. The description was reviewed by all Music students before continuing to answer the questionnaire.

Approximately 40.63% freshman-junior respondents signaled high interest in the start-up of this program offering, with 64% of these students desiring to enroll in the program immediately if the program commenced in Fall 2019. When students were asked if the proposed degree program better aligned with their future endeavors than currently offered degree programs, 36% selected “definitely yes” and 32% selected “probably yes”, while 16% indicated the degree program did not better align with future ventures.

Due to the nature of the questionnaire, this study thought it best to identify the current status of senior-level students, as the likelihood of attending and interest in the newly proposed program could be affected by the proximity to graduation. Seventeen percent of senior-level respondents were very interested in the program, and 34.78% moderately interested. Fifty percent of seniors estimated enrolling in the program immediately if offered. Approximately 16.67% of senior respondents consider the proposed degree program to be better aligned with their future careers than the presently offered degree program.

The table below displays the results of each survey question.

Student Reponses to Open-Ended Survey Question: "If you would like to share other thoughts as it pertains to your interest in the proposed degree program, please do so below" [3]

Student Interest Survey Results for Proposed Degree Program in Music: Bachelor of Science Degree in Music				
Identify your current academic status	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Freshman	14	41.18	N/A	N/A
Sophomore	15	44.12	N/A	N/A
Junior	5	14.71	N/A	N/A
First Semester Senior	N/A	N/A	11	44
Second Semester Senior	N/A	N/A	12	48
Senior Status For More Than 2 Semesters	N/A	N/A	2	8
Have you read the description of the proposed Bachelor of Science Degree in Music which was enclosed in the email with the link to this survey?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Yes	21	63.64	14	60.87
No, but I would like to review the description	12	36.36	9	39.13
No, and I would not like to review the description	0	0	0	0
To what extent are you interested in pursuing studies toward a Bachelor of Science Degree in Music if offered at Tennessee Tech University?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Very	13	40.63	4	17.39
Moderately	12	37.5	8	34.78
Not at all	7	21.88	11	47.83
Is a Bachelor of Science Degree in Music better aligned with your future endeavors than currently offered degree programs?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Definitely yes	9	36	2	16.67
Probably yes	8	32	3	25
Might or might not	4	16	3	25
Probably not	3	12	4	33.33
Definitely not	1	4	0	0
How soon would you enroll in the proposed Bachelor of Science Degree in Music if one were to be established in Fall 2019?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Immediately	16	64	6	50
1 year	N/A	N/A	1	8.33
2 years	5	20	0	0
3 years	0	0	N/A	N/A
Not at all	4	16	5	41.67
If this program moves forward, would you like to be kept informed?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Yes	30	93.75	14	66.67
No	2	6.25	7	33.33

[3] Note, student responses were not altered to prevent misinterpretation of viewpoint.

Freshman, Sophomore, Junior Reponses:

- Sounds like a great idea for people who want to pursue music outside of education or performance purposes! I am not interested simply because I want to be a music teacher, but I believe this sounds like a great idea!
- I believe that this degree would be a great addition to the music department
- It would help me focus on other music that interests me more than the standard classical, which takes up the majority of my time. It takes a huge load off since I don't really want to do classical music for my career.
- Not everyone has a firm grasp on whether they want to teach or perform, so rather than picking one or even double majoring, a degree in Music is a great way to establish middle ground without any pressure to make a decision on that. It's a flexible degree which can later be used to refine for a graduate degree. Thanks a lot.
- I am hoping to eventually do music therapy, so this is exactly what I would like.

Senior Responses:

- A Bachelor of Music degree does not seem to present a significant opportunity for employment without pursuing Graduate school after undergraduate studies. And education degree is the most well-rounded degree you can get. The performance expectations are just as high as a performance degree, plus the knowledge, resources, and experience accumulated during the course of an education degree are so vast in scope that any field of study beyond that of an undergraduate degree is well supported by an education degree. A bachelor of science degree seems to leave an individual with less experience, less knowledge, and less resources to use after graduation. It seems, to me, like the easy way out of a music degree. "The path of least persistence".
- This would be amazing for people who want/need a degree in music but don't want to pursue education specifically. Such as, music therapy, music business, composition, etc.
- I've had a large interest in music therapy, and believe that a degree program like this would help students with interests outside specifically performance or education be able to gear classes to their independent goals, such as therapy, commercial music, business, technology, etc. It seems like the programs that were aimed toward therapy or business in the past failed because it was too small of a niche, and there weren't enough students to support entire majors dedicated to each program. This seems like a great step in the right direction, to begin building up other areas of music study for a more diverse program.
- Good opportunity for the university to further its academic program options
- It's hard enough for people to find a job with a music degree in either performance or education. (Not to mention having a music degree is a joke now a days) I think there's not a point in going in music if you aren't doing one or the other. I think music business should be the alternative. BUT there should be MUSIC business classes. Not just music classes and then business classes. You might as well minor in one or the other and it be the same thing. With a music business degree that would give students that think performance or education isn't what they want, an option of managing an orchestra, or studio, or shops. But I'm sure you all have made your decision on this other degree program already without our input anyways so..
- I think this is a terrible idea. As this degree is a comp out for people who are unable to do the normal requirements of a Ed or performance music major. I think that the school should just let

people fail instead of try to keep their numbers up and create a degree that is easier for people who can not achieve the real deal. This is a step down for tech and it is a bad move.

- I think this degree will help our School of Music better recruit students interested in music composition and theory.
- I think I'm theory this is a good idea, but I do not see a good application for this degree. If an individual is interested in university teaching or music therapy, an education degree would be, from what I know and believe, much more beneficial. For those interested in doing music business, a degree we do not offer, I think it may be beneficial, but a performance or Ed degree still seems like better options. It seems to be an easier path to getting a music degree. If we're doing this so that more people have an opportunity to earn a degree, so that we can graduate more students are we focused on the quantity of students in our program, or the quality of student we produce in the program. I would like to think quality is the first priority, and that comes from requiring hard work, dedication, and providing the most well-rounded, in-depth experience possible, not create a path of least persistence.

3. Local and Regional Need/Demand

Undergraduate degrees provide general market skills that can be used in many different occupations, and make the acquisition of specific skills easier and more efficient once a graduate is hired by an employer. It is quite common for college graduates to find employment in occupations that utilize their background in music, but also require other skills in business, marketing, technology, or management.

We use the 2017 Integrated Public Use Microdata Series (IPUMS) database from the American Community Survey of the BLS.[4] Most BLS data are in the form of aggregated tables. IPUMS data are at the individual level. This allows for the construction of customized tables that can accommodate specific comparisons of interrelated variables.

Tennessee residents who hold an undergraduate degree in music find employment in many diverse occupations. Table 1 shows the top six occupations of Tennessee music majors. Note that musicians would be classified as ``Arts, Design, Entertainment, Media'', indicating that very few (14.2%) music majors become employed as musicians. This is very close to the proportion in the US population (14.7%). More Tennessee music majors are in education than are employed as musicians. Also note that the last four occupations in Table 1 are all business-related occupations, so that we could conclude that over one-third (37.9%) end up in business. The occupational distribution of Tennessee music majors is very similar to that of US music majors, though more Tennessee majors end up in business, and fewer in education.

[4] Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas, and Matthew Sobek. IPUMS USA: Version 9.0 [dataset]. Minneapolis, MN: IPUMS, 2019. https://doi.org/10.18128/D010.V9.0

Table1: Top Occupations for TN Music Majors (in percent)

Occupation:	TN Music Majors	USA Music Majors
Education, Training, Library	20.6	30.0
Arts, Design, Entertainment, Media	14.2	14.7
Management, Business, Science/Art	13.9	11.1
Office and Administrative Support	11.8	9.4
Sales and Related Occupations	6.9	6.7
Business Operations Specialists	5.3	3.5

Table 2 reports statistics on the distribution of earnings of music majors in Tennessee and compares it to the distributions of US music majors, Tennessee workers in general, and all US workers. The average annual earnings of music majors in Tennessee, regardless of current occupation, is $47166. This is substantially less than average of $50989 for all music majors in the US. This likely is the result of differences in real earnings across all occupations in the US, as evidenced by comparing the average earnings of all Tennessee workers to the average earnings of all US workers. Tennessee's music majors earn 93% of US music majors' earnings, while all Tennessee workers earn only 87% of all US workers' earnings.

Table 2: Earnings Distributions Comparisons

	TN Music Majors	US Music Majors	All TN Workers	All US Workers
mean	47166	50989	39634	45499
median	36000	40000	29000	31000
std deviation	55499	57600	49403	56281
1st quartile	19000	18000	13300	14700
3rd quartile	56000	65000	50000	57000

The differences in the dispersion of earnings is also of interest. The variation of earnings of Tennessee music majors is about the same as that of US music majors, and all US workers. But the variation of all Tennessee workers is the smallest of the four. Although the standard deviation and first quartile of Tennessee music majors is very close to that of US music majors, the third quartile is much lower for Tennessee music majors. This indicates that the distribution of US music majors is more positively-skewed.

Whatever the differences in mean earnings, the biggest comparative difference that Tennessee music majors has is in the age-earnings profile. Typically, we observe that as workers age, their earnings

increase, reaching a peak somewhere in the 50s to early 60s, and then decline. Table 3 shows the average earnings at various age groups.

Table 3: Mean Earnings by Age Group

Age Group:	TN Music Majors	US Music Majors	All TN Workers	All US Workers
Less than 30	27862	27106	18995	21397
30-50	57452	56323	45331	53088
50-65	55032	64268	52304	58854
Over 65	40050	47937	40895	43773

The age-earnings profile of US music majors, all Tennessee workers, and all US workers all follow the usual profile. But Tennessee music majors' earnings peak earlier, and decline much more rapidly, than the comparison groups. This may imply that while younger Tennessee music majors enjoy the same earnings as the national average, future earnings may not increase as fast.

According to national statistics published by the Bureau of Labor Statistics (bls.gov), 44.7% of music majors are employed as musicians or teachers and 30.7% are employed in general business positions.[5] In Tennessee, only 34.8% of music majors find employment as musicians or teachers, while 37.9% end up in business.[5] This 17% swing from the national average, likely means that a higher percentage of TN music majors will end up in business related jobs, rather than music and education positions. This is further justification for the proposed degree, which has a broader curriculum and academic scope.

Further, there are likely students who are currently enrolled in our B.M. in Music Education and Music Performance degrees, who are unaware of careers outside of education and performance. If the proposed degree was implemented, it may expose current students to a more appealing or better matched career path in a music-related business position.

4. Employer Need/Demand

In this section, focus is placed on assessing the employment opportunities and job outlook for the proposed Bachelor's degree in Music.

Organizations in Putnam County have recently expressed a need for graduates with a music background, but who also possess skills in business, marketing, technology, or management. Students who graduate from this degree program will be prepared to assume a variety of positions, depending on their skillset and areas of study.

Locally, these include companies such as the Cookeville Performing Arts Center, Bryan Symphony Orchestra, Cumberland County Playhouse, Backdoor Playhouse, Learning Tree Agency, Muddy Roots Music Festival, Harper's Soundstage and Recording Studio, Peachtree Learning Center, Steven's Street

[5] Overview of BLS Statistics by Occupation. *Bureau of Labor Statistics*. Retrieved March 3, 2021, from https://www.bls.gov/bls/occupation.htm

Music Academy, Crossroads Music, etc.

Regionally, the quantity and variety of potential employers grows exponentially. Nashville, Knoxville, Chattanooga, are all home to many performing arts companies, orchestras, live music venues, music agencies, independent artists, art academies, music festivals, religious organizations, sound recording/reinforcement industries, art organizations, instrument manufacturers, motion picture and video industries, retail and repair shops, etc.

Music students who graduate with the proposed degree will be better equipped to seek employment with companies who are hiring a music-related position that requires business, marketing, technology, or management skills. These graduates will be able to explore many career paths outside the traditional models of music education and performance.

The following section presents data and information obtained from the BLS and related sources. We investigate data from the BLS and related sources, such as location quotients, state and area data, and salary to gain a big picture view of music occupations. As mentioned earlier, there may be some overlap of information across the regional demand section and here. This is because labor markets do not treat these headings as mutually exclusive. In addition, regional demand and employer exhibit a dependent nature.[56]

A student may seek the Bachelor of Science in Music to fulfill a desire for a liberal arts education and/or to obtain a "generalist" degree in music (Hill, Colin, LON). Particular occupations in the marketplace, as defined by the Bureau of Labor and Statistics, that may accommodate the proposed degree are broad and diverse. Government statistics are available based on occupations that are directly, or indirectly related to music. Although this information is valuable, it lacks the insight on where music majors are finding employment along with other critical aspects in the marketplace. Therefore, this study includes alternative data from IPUM (discussed in an earlier section) that investigates questions not be addressed by the BLS.

4.1 Snapshot

As part of gaining a big picture view, or snapshot of occupations in music, the Bureau of Labor Statistics provides data in the Occupational Employment Statistics repository (OES). After a careful review of this particular database, focus was placed on the general heading Arts, Design, Entertainment, Sports, and Media Occupations (OES Group ID Appendix 1B). There are several sub-occupational definitions under this description that make reference to music, such as Musicians, Singers, and Related Workers (27-2040),[6] Music Directors and Composers (27-2041), Musicians and Singers (27-2042), and Entertainers and Performers, Sports and Related Workers, All Other (27-2099) (OES Sub-Group Appendix 1B). However, there is no single occupation defined as "music" listed in the OES. And although the "music degree holder" may find employment in related and seemingly non-related fields, Table 4 summarizes key information for the aforementioned occupations to provide a baseline for the reader.

[5] Overview of BLS Statistics by Occupation. *Bureau of Labor Statistics*. Retrieved March 3, 2021, from https://www.bls.gov/bls/occupation.htm

[6] DiFurio, Ferdinand. Feasibility Study on Music.

[7] Detailed information was not available for this occupation, such as LQs and related employer data.

Table 4: OES Occupational Descriptions

Headings	Nt'l mean hourly wage
Musicians, Singers, and Related Workers	34.11
Music Directors and Composers	29.56
Musicians and Singers	35.86
Entertainers and Performers, Sports and Related Workers, All Other	23.15

The BLS includes information on occupations under the Occupational Outlook Handbook database (Handbook). It is not definitively clear how this information coincides with the Occupation Economic Statistics (OES). Because of this, this section will analyze select occupations from this database as part of the feasibility study.

Under the aggregated category entitled Entertainment and Sports Occupations, the following sub-occupations are listed: Actors, Athletes and Sports Competitors, Coaches and Scouts, Dancers and Choreographers, Music Directors and Composers, Musicians and Singers, and Producers and Directors.

We focus on the OES occupational category "Music Directors and Composers" as a baseline reference. This occupation cross-lists many jobs that a music major can attain (Directors, Cross-list Appendix 1B), such as music adapters, music arrangers, music conductors, and music copyists.[7]

The 2017 annual national median pay for Music directors and composers is listed as $50,590.

The entry level of education required for this occupation is a Bachelor's degree (no field specified), and the number of jobs nationally listed at 74,800. The job outlook and employment change forecasted nationally for the period 2016-2026 is 6% and 4,300 respectively (Music directors, Job Outlook, Appendix 1B).

The BLS provides information on the job description for Music Directors and composers. Some of the select descriptions of directors include "select musical arrangement and compositions to be performed for live audiences or recording, direct rehearsals to prepare performances and recording, and meet with potential donors and attend fundraisers" (Music Directors, Job Description, Appendix 1B). Composers "write original music that orchestras, bands, and other musical groups perform, meet with orchestras, musical groups, and other who are interested in commissioning a piece of music, and work with musicians to record their music" (Music Directors, Job Description, Appendix 1B).

The job outlook reported by the BLS for music directors and composers is expected to be consistent with the average growth for all occupations (Music directors, Job Outlook, A.4). However, the BLS report

[7] The BLS cross-references the Music Professor with Post-secondary Teachers. Drama, Art, Music Teachers: Post-secondary is covered in this study briefly under the analysis using the OES repository. See section A.4. It is also worthwhile mentioning that Music video directors and Music video producers are cross-listed with Producers and directors in general. There are several other occupations listed that could qualify as a baseline reference. However, to accommodate various resource constraints of the feasibility study, this particular choice was made. In addition, information is provided by the BLS on post-secondary teaching careers in music. However, the School of Music already offers a Music Education degree that is separate from the proposed Bachelor's degree in Music.

suggests the market may realize some resistance from competition in the labor market along with funding challenges for performance venues and the arts in general (Music directors, Job Outlook, Appendix 1B).

The BLS reports 74,800 jobs nationally for Music directors and composers in 2016, and projects 79,100 jobs for 2026. Extended data is available in an Employment by Industry excel file (Music Directors, Projections Central, Excel, Appendix 1B). The reader can observe where Music directors and composers are finding employment. A relatively large share of employment is held at educational institutions, self-employment, and Religious, grantmaking, civic, professional, and similar organizations (Music Directors, Projections Central, Employment by Industry, Excel, Appendix 1B). When this outcome should be coupled with the information in IPUM section 3.4 that reveals "music" majors are also finding employment in several, seemingly unrelated occupations.

To answer the question of "Which employers hire music majors and related?" the work environment provided by the BLS can be explored. The BLS reports the largest of employers of music directors and composers as listed in Table 5 (Music Directors, Work Enviro, Appendix 1B). Also listed in the table are annual average wages for Music directors and composers by the top paying employers (Music Directors, Pay, Appendix 1B).

Table 5: Employers of Music Directors and Composers

Headings	% of total	Pay of Music Directors and composers by top employers
Religious, grantmaking, civic, professional, and similar organizations	56%	$40,560
Self-employed workers	26	N/A
Elementary and Secondary schools: state, local, and private	12	$54,690
Performing arts companies	3	$53,870

4.2 Location Quotients

As a way of assessing industry-intensity for employment in music-related occupations, location quotients are investigated. Location quotients provide a measure of the employment concentration for a particular job. An quotient of greater than one "indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average." (LQ).[7]

The location quotients for the state of TN for Music Directors and Composers, Musicians and Singers, Entertainers and Performers, Sports and Related Workers are 1.24, 2.60, and 1.00 respectively is listed in TN (LQ, Music Directors and Composers Appendix 1B ; LQ, Musicians and Singers ; LQ, Entertainers and Performers). There are likely geographical areas throughout the state that offer above average employment in music-related sectors that may explain the magnitudes of these indices. It is well known that in parts of Tennessee, the share of employment in sectors related to music composition, song

[7] The BLS provides a definition of a location quotient as: "The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average." The value of the LQ is listed for TN. https://www.bls.gov/oes/current/oes272041.htm#(9)

writing, record producing, and supporting occupations is relatively high compared to other parts of the country.

4.3 State and Area data

State and Area data for Music Directors and composers can be obtained via the OES database that links from the Occupational Handbook (Music Directors, State and Area, Appendix 1B). In the state of TN, there are a reported 390 jobs under Music directors and composers for May of 2017.

The annual mean wage is provided by state for the period May 2017. A map is provided below that compares regions of U.S. (Music Directors, Maps, Appendix 1B). There are clusters of high-salary states in the Northeast region with a scattered distribution of relatively high-salary states throughout the nation. Tennessee does not report data for this map. More information on the geographical distribution, metropolitan versus nonmetropolitan, of pay and employment is listed in the Appendix (Music Directors, Metro, Appendix 1B).

The BLS provides additional information for State and Area within an external research site entitled Projections Central. Short-term Occupational Projections for Music directors and composers in TN from 2018 – 2020 are estimated to go from 1,630 in 2018 to 1,670 in 2020, representing a 2.5% change with an annual average number of jobs available at 180 (Music Directors, Projections Central, Excel, Appendix 1B).[6] Long-term occupational projections for Music directors and composers in TN from 2016 to 2026 are estimated to go from 1,640 in 2016 to 1,790 in 2026, representing a 9.1% change (vs. 5.7% for the nation), with an annual average number of jobs available at 180.

4.4 Industry Profiles

An Industry Profile, which is a list of employers that hire the most (as measured in levels) for this occupation of Music Directors and Composers, includes Elementary and Secondary Schools, Religious Organizations, Performing Arts Companies, Colleges, Universities, and Professional Schools, Independent Artists, Writers, and Performers. Industries with the highest concentration of jobs for Music Directors and Composers include Religious Organizations, Performing Arts Companies, Sound Recording Industries, Independent Artists, Writers, and Performers, and Motion Picture and Video Industries. The top paying industries include Independent Artists, Writers and Performers, Sound Recording Industries, Performing Arts Companies, Promoters of Performing Arts, Sports, and Similar Events, and Junior Colleges (IP Music Directors and Composers Appendix 1B).

For Musicians and Singers, the Industry Profiles for the most employers, highest concentration of jobs, and top paying sectors are similar to those listed for the previously listed Music Directors and Composers (IP Musicians and Singers Appendix 1B). There are a few exceptions for this occupational definition: Promoters of Performing Arts, Sports and Similar events are among the highest employers (levels) unique to this definition, and Local Government, excluding schools and hospitals are listed among the top paying sectors.

For Entertainers and Performers, many of the same occupations listed as the most employers (levels), highest share of jobs, and top paying industries are cross-listed with the other occupations listed previously. Some that are unique for Entertainers and Performers, et al. include Traveler

[6] A short-term rate of change was not available for the nation for Music directors and composers.

Accommodation, Independent Artists, Writers, and Performers, and Drinking Places for highest employers, highest share of employers and top paying sectors respectively (IP Entertainers and Performers Appendix 1B).

The BLS provides information on similar occupations to Music directors and composers, many of which could accommodate degree holders of the proposed bachelor's degree in music. These include Actors, Dancers and Choreographers, High School teachers ($59,170), Kindergarten and elementary school teachers ($56,900), Middle School teachers ($57,720), Musicians and Singers, Postsecondary Teachers ($76,000), Producers and Directors ($71,620), and Writers and Authors ($61,820).[11] (Music Directors, Projections Central, Excel, Appendix 1B).

The curriculum of the proposed degree aligns with the job and career opportunities locally and regionally. The proposed degree will provide students with the skills needed for employment in a variety of positions. This includes performing art companies, orchestras, live music venues, music agencies, independent artists, art academies, music festivals, religious organizations, sound recording/reinforcement industries, art organizations, instrument manufacturers, motion picture and video industries, retail and repair shops, etc. Since this degree has optimal curricular flexibility, each individual's career path will be guided by their interests and courses of study.

The curriculum of the proposed degree will also provide students with the skills needed to seek employment as music directors and composers. To direct any musical ensemble, conducting skills are required. For this reason, students are required to take two semesters of Conducting (3 credits). Musical directors must also be able to teach basic music theory and hear errors in rehearsal. Therefore, the proposed degree requires 4 semesters of music theory (10 credits) and 4 semesters of Aural Techniques (4 credits). If the student plans to be a choral director, they must be to accompany their choirs on the piano. For this reason, the proposed degree requires 2-4 semesters of piano.

If a student is particularly interested in directing k-12 ensembles, all music education courses can be taken as electives. These courses include Marching Band Techniques, Materials and Methods in Music (K-5), Materials and Methods in Music (6-12), String Pedagogy and Literature, and Choral Pedagogy and Literature.

The curriculum of the proposed degree will also prepare students to become successful composers. Composers must be strong at written and aural music theory and have a strong understanding of various musical styles, genres, and composers. Therefore, the proposed degree requires 4 semesters of music theory (10 credits), 4 semesters of Aural Techniques (4 credits), and 2 semesters of Music History (6 credits). Composers must also be proficient with music notation software and basic recording techniques so they can notate and document their compositions. For this reason, the proposed degree includes two music technology courses, Computer Applications in Music and Recording Techniques.

If a student is particularly interested in composition, all composition courses may be taken as electives (Instrumentation, Jazz Arranging, Repertoire and Literature, Form and Analysis, Contemporary Music, Music Business and Entrepreneurship, Improvisation I/II, Private Composition Lessons.

[11] Figures in parentheses are 2017 Median wage reported for the occupations.

5. External Research

There is additional information provided by the BLS that is external to the government's database. These resources include the National Association of Schools of Music, Future of Music Coalition, Music Composers and Arrangers, Music Directors, and Music Directors and Composers (Music Directors, More information, Appendix 1B).

The National Association of Schools of Music (NASM) was started in 1924 and states in its purpose to "advance the course of music in American life and especially in higher education, to establish and maintain threshold standards for the education of musicians, while encouraging both diversity and excellence, and provide a national forum for the discussion of issues related to these purposes" (NASM).

A record of job listings for this organization reveals the following:

- Position of Accreditation Assistant
- Position of Editorial and Programming Assistant

It is important to point out that these positions require and/or state as preferable a college degree in the arts and/or a degree in performing arts. These are a few examples of how the proposed Bachelor's degree in Music may help students seeking these positions in the Arts Industry (Music Directors, NASM, Appendix 1B)

The Future of Music Coalition offers several resources to those in the music industry. A particular research project conducted by this group is Money from Music Quizzes. The study stresses the need for musicians to understand the fiscal aspects of the music industry along with copyright laws, licenses and agreements. The marketplace for these services may accommodate the degree holder in Music (Music Directors, Future of Music Coalition, Appendix 1B).

As part of providing more information for the music major in the marketplace, the BLS provides another alternative resource. The Career Outlook reference, which provides information on "careers for music lovers," is briefly summarized here (Music Directors, Career Outlook, Appendix 1B).

Within the field of music, there are many jobs to filled that support the performance component. These jobs are also likely to accommodate a degree holder with a Bachelor's degree in Music. The BLS highlights Broadcast and sound engineer technicians along with music teachers.

In terms of assessing the employment outlook, the BLS points out that obtaining reliable data on wages and employers is difficult since careers in music are broad and diverse. Many occupations within music have different titles and are indirectly related. For this reason, predicting where the music major will find employment is not clear. However, the broad-based skillset of the music major can offer a spectrum of employment opportunities in a competitive labor market.

6. Summary and Viability

Since labor market conditions, particularly labor demand, are dependent on the output market, some discussion of what music produces is helpful. Degree holders in music may pursue careers that generate music-related goods and services. On a spectrum, these goods and services may be relatively income elastic within a certain range, implying that individuals are likely to increase their quantity demanded for

them by proportionally more than some initial rise in income. This may be the case during an economic expansion, or conversely, in an economic contraction. This makes goods and services related to music particularly vulnerable to business cycles. As a result, the demand for labor, which is derived from the demand for the output good, may also be sensitive.

However, the results in the feasibility study show that music majors find employment in fields seemingly unrelated to their specialty. Individuals pursuing these alternative career paths may gain some degree of immunity to economic downturns, offering those employed with a layer of job security.

The analysis performed using the IPUMs database suggest unique and dynamic labor market conditions for the music major. In TN, music majors find employment in seemingly unrelated occupations such as education, business, sales and administrative support. A significant share (over one-third) find employment in business-related occupations. Also, the path of lifetime earnings for TN music majors appears to stagnate in a worker's later years when compared to national trends.

The proposed degree was designed to provide a core musical experience, while encouraging study in expanded areas. When compared to the other two existing B.S. Music degrees in Tennessee (APSU and TSU), the proposed degree has the highest elective total in the state (34 credits). Further, this degree incorporates these electives starting in the first semester, allowing the student to create a deep connection with their secondary area(s). Lastly, replacing the senior recital with a senior project, allows the student to pursue a capstone project in their secondary area, or a collaboration between both disciplines.

The survey results for the proposed degree in Music show that close to a majority share of freshmen-junior level students expressed a high interest in the program, while over a majority share indicated they would enroll in the program.
Because business cycles, or fluctuations in real GDP around the long-run trend, are considered short run phenomenon, the viability of the music degree in the short run maybe uncertain. As degree holders find new employment opportunities resulting from structural shifts in the economy, they may settle into jobs that are less vulnerable to economic swings. As a result, the proposed music degree may become more viable in the long run.

In summary, the viability of the proposed degree program in this study depends on several factors, several of which cannot be measured here. Labor market conditions, and how they respond to output market conditions, will dictate the demand for this proposed degree. Further, the survey results from this study may not always correlate with the actions respondents take in real life. The combination of these things add a large degree of uncertainty in forecasting the viability of the new program.

Program Cost / Revenues

The School of Music will utilize resources presently available to develop, launch and support the new proposed program; no additional faculty, space or significant equipment will be needed initially to successfully implement the curriculum. While our current BM degrees are healthy, some of our courses are not currently at full enrollment capacity, thus we are able to accommodate additional students who are interested in pursuing the Bachelor of Science degree in our current course offerings.

As the proposed degree program experiences growth, we will employ the teaching assistance of locally qualified individuals to offer additional course sections. Program revenues will support the salary of any additional adjunct faculty and needed equipment (laptop). As such, beyond implementing a new marketing and promotion program to include the new academic program, there are minimal costs associated with the new degree. Our annual NASM accreditation fees will not be affected by the expected growth in the program. The program will be supported via program revenue.

Enrollment and Financial Projections - In-state Tuition

	Year 1	Year 2	Year 3	Year 4	Year 5
Expenses	$1,250	$5,160	$5,160	$5,520	$5,520
Tuition/Fees (in-state)	$84,176 (8 FTE students)	$147,308 (14 FTE students)	$210,440 (20 FTE students)	$273,572 (26 FTE students)	$315,660 (30 FTE students)
Net Profit	$82,926	$142,148	$205,280	$268,052	$310,140

Revenues include:

Tuition/fees: $5,261/student per semester at 12 credit hour enrollment x 2 semesters = $10,522/year/student

Expenses:

	Marketing/Promo	Adjunct Pay	Adjunct Benefits	Equipment (laptop)	Supplies	Total
Planning Year	$0	$2,500*	$0	$0	$0	$2,500
Year 1	$1,250	$0	$0	$0	$0	$1,250
Year 2	$750	$2,100	$210	$2,000	$100	$5,160
Year 3	$750	$2,100	$210	$2,000	$100	$5,160
Year 4	$750	$4,200	$420	$0	$150	$5,520
Year 5	$750	$4,200	$420	$0	$150	$5,520

* External Reviewer

The table above outlines all anticipated expenses during the first 5 years of the proposed degree, plus the costs related to the planning and approval process.

The planning year's only expense is the cost of an external reviewer. The School of Music paid the external reviewer $2,000 for reviewing our previous proposal and an additional $500 for travel and lodging. These expenses totaled approximately $2,500.

The Dean of the College of Fine Arts has earmarked funds ($1,250) to aggressively market the launch of the proposed degree program. We plan to purchase tabletop displays, pull-up banners, and other marketing materials during the first year that will be used in subsequent years. Starting in year 2, marketing allocations will be reduced to $750. These annual funds will be used to print annual handouts and marketing materials.

Based on our projected enrollment, we are planning to hire adjunct instructors to accommodate growth. For this reason, we are allocating $2,100 in years 2 and 3 and $4,200 in years 4 and 5 (plus 10% for benefits). Each of these adjunct instructors will require a laptop ($2,000 each), which is a projected expense in year 2 and 3.

Supplies are allocated for extra office supplies needed to support larger classes and additional sections. Staring in year 2, $100 is allocated and then increases to $150 in years 4 and 5.

All expenses are expected to be supported by proposed program revenues.

References:

Master Plan for Tennessee Postsecondary Education 2015-2025

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

Tennessee Tech Strategic Plan 2019: Tech Tomorrow

https://www.tntech.edu/strategic

Implementation Timeline:

Tennessee Tech University Board of Trustees Approval: October 6, 2022
Tennessee Higher Education Commission Approval: November 3, 2022
Program Implementation: Spring 2023

Institutional Approvals:

- School of Music Faculty 8/13/21
- College Curriculum Committee 9/10/21
- University Curriculum Committee 9/23/21
- Academic Council 10/6/21

The School of Music has carefully evaluated the potentials of student enrollment in the first year. As soon as we receive THEC Commission approval of the program, we will actively carry out our recruitment/marking plan through on-campus and off-campus recruitment efforts.

To implement a comprehensive marketing plan, the Dean of the College of Fine Arts has secured one-time funding to create new tabletop displays, pull-up banners, and other marketing materials to promote the proposed degree. These materials will be displayed and promoted at campus recruitment events, college fairs, community college visits, TMEA All-state and regional events, band competitions, and other musical events during the spring and summer of 2023. Additionally, the School of Music plans to mail prospective students recruitment brochures about the proposed degree.

We have seen an increase in transfer enrollment in the last few years. Since this degree allows transfer students a 2-year pathway to graduation, we will put extra emphasis on the recruitment of transfer students.

While recruiting students for this new degree is a priority, this degree will also serve current students. We currently have 4-6 students who are interested in pursuing this degree as soon as it becomes available. 4 of these students have failed the PRAXIS 3 or more times and are seeking an alternative pathway to graduation. 2 other students have expressed interest due to their desire to seek music industry jobs. One wants to own a music store and the other wants to work for an instrument design company.

We also have a handful of students who dropped out of school recently because they were unable to complete the Teacher Education requirements of the B.M. These students have expressed an interest in returning to school if the proposed degree is implemented.
The proposed degree program will attract transfer students, students who have struggled to complete certain benchmarks in the B.M degree, and a new type of music student who is more industry driven. For these reasons, we project a first-year enrollment of 8 students.

Curriculum:

Program Learning Outcomes

- Students will become proficient performers in their primary instrument or voice, and will learn to perform in a variety of ensemble settings.
- Students will gain a new level of appreciation and understanding of music through the study of music theory and aural theory.
- Students will use technology as a tool for music creation. This includes writing scores using notation software, becoming proficient working with Digital Audio Workstations (DAW), and using technology in diverse performance settings.
- Students will develop an understanding of musical processes, aesthetic properties of style, and the way that cultural, and social forces shape and are shaped by musical practice. Students will be able to write about music, to develop original ideas, and defend musical judgments.
- Students will be encouraged to explore secondary areas of study to broaden their skills and experiences in adjacent disciplines.

Academic Program Requirements

Bachelor of Science in Music – Required Courses

MUS 1120	Harmony I	3 credits
MUS 1130	Aural Techniques I	1 credit
MUS 1140	Harmony II	3 credits
MUS 1150	Aural Techniques II	1 credit
MUS 2110	Harmony III	2 credits
MUS 2120	Aural Techniques III	1 credit
MUS 2130	Harmony IV	2 credits
MUS 2140	Aural Techniques IV	1 credit
MUS 1xxx	Lower-level Private Study	4 credits (1 each semester)
MUS 10xx	Lower-level Large Ensemble	8 credits (1 each semester)
MUS 1023	Intermediate Class Piano III	1 credit
MUS 1024	Intermediate Class Piano IV	1 credit
MUS 3010	Music History and Literature I	3 credits
MUS 3020	Music History and Literature II	3 credits
MUED 3630	Fundamentals of Conducting	1 credit
MUS 4010	Senior Project	1 credit
MUS 3xxx	Upper-level Private Study	4 credits (1 each semester)
MUS 4510	Computer Apps	2 credits
MUS 4250	Recording Techniques	2 credits
MUS 1013	Recital Class	0 credits (8 semesters)
UNMU 1020	First-Year Music Connection	1 credit
General Studies	General Studies	41 credits
Music Electives	Music Electives	4 credits (2 credits 3000 level or above)
Electives	General Electives	30 credits (18 credits 3000 level or above)
	Total Hours	**120 credits**

Bachelor of Science in Music – Semester Credit Hours (SCH)

Freshman Year

Fall Semester			Spring Semester		
UNMU 1020	First-Year Music Connection	1	MUS 1140	Harmony II	3
MUS 1120	Harmony I	3	MUS 1150	Aural Techniques II	1
MUS 1130	Aural Techniques I	1	MUS 1013	Recital Class	0
MUS 1030	Music Appreciation	3	MUS 1xxx	Private Lesson	1
MUS 1013	Recital Class	0	MUS 10xx	Major Ensemble	1
MUS 1xxx	Private Lesson	1	MATH 1xxx	Mathematics Gen Ed Core	3
MUS 10xx	Major Ensemble	1	ENGL 1020	English Composition II	3
ENGL 1010	English Composition I	3	Gen Ed Core	Social/Behavioral Sciences	3
Electives	*Elective Course	1	Electives	*Elective Course	1
	Semester Credit Hours	14		Semester Credit Hours	16

*Piano class is highly advised Freshman Year

Sophomore Year

Fall Semester			Spring Semester		
MUS 2110	Harmony III	2	MUS 2130	Harmony IV	2
MUS 2120	Aural Techniques III	1	MUS 2140	Aural Techniques IV	1
MUS 1023	Intermediate Class Piano III	1	MUS 1024	Intermediate Class Piano IV	1
MUS 1013	Recital Class	0	MUS 1013	Recital Class	0
MUS 1xxx	Private Lesson	1	MUS 1xxx	Private Lesson	1
MUS 10xx	Major Ensemble	1	MUS 10xx	Major Ensemble	1
ENGL 2xxx	English Ged Ed Core	3	Gen Ed Core	Social/Behavioral Sciences	3
Gen Ed Core	Natural Science	4	Gen Ed Core	Natural Science	4
Electives	Elective Course	2	Electives	Elective Course	3
	Semester Credit Hours	15		Semester Credit Hours	16

Junior Year

Fall semester			Spring Semester		
MUS 3010	Music History and Literature I	3	MUS 3010	Music History and Literature II	3
MUS 1013	Recital Class	0	MUS 1013	Recital Class	0
MUS 3xxx	Private Lesson	1	MUS 3xxx	Private Lesson	1
MUS 10xx	Major Ensemble	1	MUS 10xx	Major Ensemble	1
MUS 4510	Computer Apps	2	MUS 4250	Recording Techniques	2
MUED 3630	Fundamentals of Conducting	1	HIST 2020	American History II	3
HIST 2010	American History I	3	Electives	Elective Course	6
Gen Ed Core	SPCH 2410 or PC 2500	3			
Electives	Elective Course	2		Semester Credit Hours	16
	Semester Credit Hours	16			

Senior Year

Fall Semester			Spring Semester		
MUS 1013	Recital Class	0	MUS 1013	Recital Class	0
MUS 3xxx	Private Lesson	1	MUS 3xxx	Private Lesson	1
MUS 10xx	Major Ensemble	1	MUS 10xx	Major Ensemble	1
Gen Ed Core	Humanities/Fine Arts Elective	3	MUS 4010	Senior Project	1
MUS Electives		2	Electives	MUS Elective Course	2
Electives		6	Electives	Elective Course	9
Semester Credit Hours		13	Semester Credit Hours		14

TOTAL: 120 hours

Since the proposed degree includes 34 credits of electives (20 of which need to be 3000 level or higher), below are some examples of music elective courses that would be available to these students:

MUS 100X – Chamber Ensembles
MUS 1016 – Accompanying
MUS 1025 – Wind Ensemble
MUS 1026 – Varsity Pep Band
MUS 1031/1032 – String Techniques I/II
MUS 1033 – Marching Band
MUS 1035/1036 – Beginning/Inter Class Guitar
MUS 1041/1042 – Woodwind Techniques I/II
MUS 1051/1052 – Brass Techniques I/II
MUS 1060 – Chorale
MUS 1065 – Mastersingers
MUS 1070 – Concert Choir
MUS 1071 – Percussion Techniques
MUS 1074 – Music to Meet Except. Ed. Needs
MUS 1075 – Afro Caribbean Ensemble
MUS 1076 – African Drumming Ensemble

MUS 1080 – Bryan Symphony Orchestra
MUS 1081/1082– Improvisation I/II
MUS 1085 – University Orchestra
MUS 1090/1091 – Jazz Ensemble / Lab Band
MUS 1115 – Play Production
MUS 1230 – Voice and Diction
MUS 1650/1660 – Ballet I/II
MUS 1670/1680 – Tap I/II
MUS 3006 – Opera Workshop
MUS 3030 – Musical Theatre History
MUS 3130 – Form and Analysis
MUS 3140 – Counterpoint
MUS 3210 – Instrumentation
MUS 3220/3230 – Jazz Comp and Arr. I/II
MUS 3240 – Choral Literature
MUS 3710/3720 – Pedagogy and Literature I/II
MUS 3800 – Vocal Pedagogy and Literature I/II
MUS 4110 – History and Literature of Jazz
MUS 4710/4720 – Supervised Teaching I/II
MUED1820 – Intro to Music Ed
MUED 3110 – Materials and Methods in K-5
MUS 3130 – Materials and Methods in 6-12
MUED 3230 – Marching Band Techniques
MUS 3630 – Instrumental Conducting and Lit
MUED 3630 – Choral Conducting and Literature
MUED 3735 – String Pedagogy and Literature
MUSA 1001/1002 – Live Audio Engin., Intro I/II
MUSA 2001/2002 – Live Audio Engin., Inter I/II
MUSA 3001/3002 – Live Audio Engin., Adv I/II
MUSA 4001/4002 – Live Audio Engin., Pro I/II

Below are some examples of elective courses that would be help students gain skills in business, marketing, technology, and management.

ACCT 3170 - Financial Account. and Reporting I
ACCT 3210 - Cost Accounting
ACCT 3330 - Federal Taxation I
AGED 3010 - Professional Leadership
AGHE 3000 - Leadership and Service
BMGT 3630 - Human Resource Management
BMGT 3720 - Business Communication I
BMGT 4410 - Conflict Management
BMGT 4520 - Organizational Leadership
BMGT 3510 – Management/Organization Behavior
MKT 3400 - Principles of Marketing
FIN 3210 - Principles of Managerial Finance
LAW 2810 - Business Environment and Ethics
COMM 2025 - Fundamentals of Communication
CSC 1300 - Intro to Problem Solving & Comp
CSC 1310 - Data Structures and Algorithms
CSC 2400 - Design of Algorithms
CSC 2700 - Discrete Structures for Comp. Science
CSC 3570 - IT Security
COMM 3030 - Principles of Event Planning
COMM 3080 – Communication/Effective Team Work
JOUR 3460 - Introduction to Public Relations
LIST 3500 - Non Profit Leadership
DS 3620 - Data Driven Decision Making
DS 3841 - Management Information Systems
DS 3850 - Business Applications Development
DS 3860 - Business Database Management
DS 4210 - Business Intelligence
DS 4250 - Business Data Communications
ECE 2050 - Circuits & Electronics I
ECE 2140 - Intro to Digital Systems
ECE 3540 - Physical Electronics
ECON 2010 - Principles of Microeconomics
ECON 2020 - Principles of Macroeconomics
EXPW 2015 - Concepts of Health and Wellness
ME 2910 - Professionalism and Ethics
ME 3010 - Materials and Processes in Manufacturing
ME 4490 – Properties/Selection of Engin. Materials
MET 2400 - Statics and Strength of Materials
PC 4990 - Business and Grant Proposal Writing

<u>Possible Minors</u>

Local and regional employers have expressed a need for candidates with a musical background, but who also possess skills in business, marketing, technology, or management. Below are some minors currently offered at Tennessee Tech that align well with the skills needed for potential job/career opportunities:

Business Minor – General
Art History Minor
Communication Studies Minor
Computer Science Minor
Engineering Technology Minor
Professional and Technical
Communication Minor
Project Management Minor
Race and Ethnic Studies in the US Minor
Religious Studies Minor
Special Education Minor
Theatre Minor

There have been some recent discussions with other academic units on campus about creating new pathways between areas. The School of Music is incredibly inclusive and offers scholarships to non-majors for participating in musical ensembles. For this reason, we have observed that certain academic disciplines seem to be more active in the music program as non-majors.

We receive the highest percentage of non-major students from the College of Engineering, and conversely, School of Music students seem to have a high interest in courses offered by the Electrical Engineering Department and the Computer Science Department. Both departments recognize the common interests of music/engineering students, and this has led to the recent creation of new music and computer science minors, as well as the planning of future engineering minors. There are a lot of jobs locally and regionally that marry music and technology, and this seems to fit our current student demographic very well.

When the Director of the School of Nursing learned of our proposal for a B.S. in Music, she asked if we be interested in collaborating with the School of Nursing to create a therapy focus area. Music therapy is a growing field, and this would be a great precursor to a Master of Music Therapy degree (MMT).

Lastly, the Physics Department has also expressed interest in creating some unique sections of their acoustics courses for students in the proposed degree program.

Transfer Students

The proposed degree program includes 8 credits of lessons, 8 credits of ensembles, and enrollment in recital class each semester. Since transfer students are a target student population, our transfer equivalencies and credit offerings for lessons and ensembles are designed to give transfer students a 2-year pathway to graduation.

Recital Class is a 0-credit course, so it will not be a barrier to graduation. Transfer students will be advised to enroll in recital class each of the 4 semesters, fulfilling their degree requirements.

The proposed degree requires 8 credits of private lessons. All 8 community colleges in Tennessee that provide music transfer pathways to TN Tech include private lessons in their curriculum. Therefore, transfer students will be able to complete the 8-credit requirements in 2 years since 4 credits will transfer.

If a student transferred from a program that did not offer private lessons or did not meet our transfer equivalency standards, there is still a pathway to graduation in 2 years. We currently offer lessons for 2-credits. If needed, students could sign-up for 2-credits of lessons each semester, reaching their 8-credit requirement in 4 semesters.

With comparing the 8-credit requirements of lessons and ensembles, the same principles apply. Transfer students will be able to fulfill the 8 credits in 4 semesters by either obtaining transfer credit or enrolling in a 2-credit option. Additionally, with ensembles, students may elect to sign up for multiple ensembles each semester. This is typical of our B.M. students as well. Although B.M. students are required to be enrolled in 1 or 2 ensembles per semester, many elect to participate in 3 or 4 ensembles each semester. For this reason, reaching 8 ensemble credits in 4 years will be very feasible.

Sample Program of Study for Transfer Student

Below is a sample program of study for a transfer student who has completed a university parallel AA or AS degree. The proposed degree creates a 2-year graduation pathway for these students and leaves room for select courses that might not meet equivalency table standards. These courses are denoted with an asterisk*.

Anticipated Transfer Credits
Completed University Parallel AA or AS Degrees

MUS 1120	Harmony I	3	Electives	Elective Course	7
MUS 1140	Harmony II	3	MATH 1xxx	Mathematics Gen Ed Core	3
MUS 2110	Harmony III	2	ENGL 1020	English Composition II	3
MUS 2130	Harmony IV *	2	ENGL 1010	English Composition I	3
MUS 1130	Aural Techniques I	1	ENGL 2xxx	English Ged Ed Core	3
MUS 1150	Aural Techniques II	1	Gen Ed Core	Social/Behavioral Sciences	3
MUS 2120	Aural Techniques III	1	Gen Ed Core	Social/Behavioral Sciences	3
MUS 2140	Aural Techniques IV *	1	Gen Ed Core	Natural Science	4
MUS 1030	Music Appreciation	3	Gen Ed Core	Natural Science	4
MUS 1xxx	Private Lesson	4			
MUS 10xx	Major Ensemble	4			

* Course might need to be taken at TN Tech, depending on equivalency table course descriptions.

Total Credits: 59

Below is a sample two-year upper-level program of study for transfer students in BS in Music program at Tennessee Tech.

First Year at TTU

Fall Semester			Spring Semester		
UNMU 1020	First-Year Music Connection	1	MUS 1024	Intermediate Class Piano IV	1
MUS 1023	Intermediate Class Piano III	1	MUS 1013	Recital Class	0
MUS 1013	Recital Class	0	MUS 10xx	Major Ensemble	1
MUS 10xx	Major Ensemble	1	MUS 3xxx	Private Lesson	1
MUS 3xxx	Private Lesson	1	MUS 3010	Music History and Literature II	3
MUS 3010	Music History and Literature I	3	MUS 4250	Recording Techniques	2
MUED 3630	Fundamentals of Conducting	1	HIST 2020	American History II	3
MUS 4510	Computer Apps	2	Electives	Elective Course	4
HIST 2010	American History I	3			
Gen Ed Core	SPCH 2410 or PC 2500	3	Semester Credit Hours		15
Semester Credit Hours		16			

Second Year at TTU

Fall Semester			Spring Semester		
MUS 1013	Recital Class	0	MUS 1013	Recital Class	0
MUS 10xx	Major Ensemble	1	MUS 10xx	Major Ensemble	1
MUS 3xxx	Private Lesson	1	MUS 3xxx	Private Lesson	1
Gen Ed Core	Humanities/Fine Arts Elective	3	MUS 4010	Senior Project	1
MUS Electives		2	Electives	MUS Elective Course	2
Electives		8	Electives	Elective Course	10
Semester Credit Hours		15	Semester Credit Hours		15

Total Credits: 61

Additional Program Requirements:

All music majors must achieve a grade of "C" in each music course. If a lower grade is earned, the student must repeat the course.

All music majors must pass the Piano Proficiency Examination before enrolling in Upper Division (3000 level) music courses.

Music majors who are enrolled as full-time students are required to participate in a large ensemble each semester. This ensemble must be appropriate for their degree program and instrument/voice of study.

Current Courses and Existing Programs:

Existing Courses for Bachelor of Science in Music currently offered in all Bachelor of Music in Music Education and the Bachelor of Music in Performance degrees:

MUS 1120	Harmony I	3 credits
MUS 1130	Aural Techniques I	1 credit
MUS 1140	Harmony II	3 credits
MUS 1150	Aural Techniques II	1 credit
MUS 2110	Harmony III	2 credits
MUS 2120	Aural Techniques III	1 credit
MUS 2130	Harmony IV	2 credits
MUS 2140	Aural Techniques IV	1 credit
MUS 1xxx	Lower-level Private Study	4 credits (1 each semester)
MUS 10xx	Lower-level Large Ensemble	8 credits (1 each semester)
MUS 1023	Intermediate Class Piano III	1 credit
MUS 1024	Intermediate Class Piano IV	1 credit
MUS 3010	Music History and Literature I	3 credits
MUS 3020	Music History and Literature II	3 credits
MUED 3630	Fundamentals of Conducting	1 credit
MUS 3xxx	Upper-level Private Study	4 credits (1 each semester)
MUS 4510	Computer Apps	2 credits
MUS 1013	Recital Class	0 credits (8 semesters)
UNMU 1020	First-Year Music Connection	1 credit
General Studies	General Studies	41 credits

Existing course offered in Bachelor of Music in Performance: Jazz, Bachelor of Music in Performance: Instrumental:

MUS 4250	Recording Techniques	2 credits

Existing courses offered at Tennessee Tech:

Music Electives	Music Electives	4 credits (2 credits above 3000)
Electives	General Electives	30 credits (18 credits above 3000)

New Courses Needed:

MUS 4010	Senior Project	1 credit

MUS 4010 – Senior Project Credit: 1 Lab/Other: 3

This course is designed as the senior capstone experience. The nature of the work is open-ended, therefore the form and content of the project will be decided by the student and the chosen advisor for the course (usually, but not limited to, the student's academic mentor or applied teacher). The project design should include practical and academic components and should traverse various areas of interest (can include the student's minor or concentration). Students are encouraged to create relationships and experiences with industry partners in preparation for future employment. All music majors must achieve a grade of "B" in this course.

Distance Learning:

The School of Music does not have plans to offer the proposed program via distanced learning. This program is intended for on-campus delivery.

Course Syllabi:

Course Syllabi cab be found in Appendix 5.

As a technological university, the School of Music is committed to integrating technology into the proposed curriculum. With 34 elective credits and a capstone project, the proposed B.S. in Music aims to create a highly individualized and cross-disciplinary curriculum of study. We hope this individualized flexibility will recruit and retain a distinctive population of students who are currently underserved.

Tennessee Tech University and the School of Music have developed several programs and advisement positions to ensure skillful and dedicated advisement. All freshman are advised through Launchpad, a team of advisors dedicated to first-year students. Students enrolled in the proposed B.S. in Music would be assigned to a specific Launchpad advisor who has been trained in our degree programs.

In 2020, the College of Fine Arts established a new advising position. This advisor works strictly with Music and Art students and is a specialist in these degree programs. Students transition from their Launchpad advisor to our College of Fine Arts advisor their second year and remain with this advisor through graduation. Further, students enrolled in the proposed B.S. in Music are required to take private lessons all 8 semesters. This one-on-one time with their applied faculty member creates an additional opportunity for advisement, in a less formal capacity.

Academic Standards:

Admission Standards

The policies and procedures for admission and scholarships are reviewed annually by the School of Music faculty. Each area (brass, woodwinds, percussion, strings, voice, piano) has a scholarship allocation committee responsible for setting annual standards. The Tennessee Technological University admission standards are as follows:

Admission to Freshman Standing

An applicant who has not enrolled in college courses following high school graduation or receiving a high school equivalent (HSE) diploma, GED/HiSET may be considered for admission as an undergraduate freshman. To gain admission to the University as a freshman student, one must meet the following requirements:

Graduates of public and non-public (including private schools, home schools, and church-related schools) high schools must provide an official high school transcript showing credits earned and date of graduation. Provisional admissions on academic merit through the sixth or seventh semester can be made; however, a final high school transcript showing graduation date and satisfactory grades must be received by the Office of Admissions before full admission can be granted.

The University upholds the requirements and recommendations of the State of Tennessee for Tennessee non-public schools:

www.state.tn.us/education/schools/non_public_schools.shtml. Out-of-state, online, and international schools are subject to a case-by-case evaluation to uphold a similar standard. Applicants who cannot provide a satisfactory secondary school credential may substitute acceptable scores on the GED or HiSET examination (see **Admission by Examination (GED/HiSET Applicants)**

Students graduating from high school must complete a distribution of college preparatory courses. The required courses in the Tennessee High School Diploma provide an example of such courses (see **TBR Admissions Policy 2:03:00:00 Section II.B.1.a,(4)**).

Admission requirements for new freshman applicants must have a 2.5 high school GPA and a 17 ACT Composite score (or a 910 SAT Critical Reading and Math score). Additionally, new freshman applicants must score at least a 15 on each sub score of the ACT (440 SAT Reading and 420 SAT Math).

Students that are over 21 years of age are exempted from the ACT/SAT requirement but must meet the required score on a course placement exam such as the ACCUPLACER.

Students who do not meet the above requirements will be reviewed by the Admissions Review Committee and a more holistic review will be used to evaluate the application for admission. Students volunteering information regarding a handicapping condition will be assessed on an individual basis.

Admission as a Transfer Student

An applicant who has begun college elsewhere following high school graduation or the awarding of a high school equivalent diploma (GED or HiSET) is a transfer student. If the student has completed less than twenty-four transferable semester hours of degree credit (college-level courses), the applicant will be evaluated using a combination of the admission requirements for freshmen and transfer applicants.

1. Transfer applicants must meet the following academic standards based on all of their previous college-level coursework at all institutions. (1) Must have a minimum cumulative GPA of 2.0; (2) Must have at least a 2.0 in their last full-time semester (or last 12 hours for part-time students).

2. Transfer applicants having graduated from a Tennessee Board of Regents community college with an A.A. or A.S. degree in a university-parallel program will usually be eligible for admission.

3. An applicant under disciplinary suspension or probation will not be considered for admission until a satisfactory statement has been furnished by the former college and approval given by the Admissions Review Committee.

4. Students who do not meet the above requirements will be reviewed by the Admissions Review Committee. Students volunteering information regarding a handicapping condition will be assessed on an individual basis.

5. Applicants whose native language is not English will be reviewed by the English Placement Committee. Such students may be required to take a placement test or submit test scores for the purpose of validating previous English study and/or placement in English courses, including English composition and English as a Second Language.

Readmission of Former Students

A former student of the University must file an application for re-admission. The application may be obtained online at **www.tntech.edu/applyonline** and should be filed no later than thirty (30) days prior to the first day of class to be considered for the semester in which he or she wishes to enroll. No application fee is required.

A former student who has been suspended two or more times or dismissed must submit a Request for Readmission After Suspension instead of the application for re-admission no later than 10 days for domestic students and six weeks for international students prior to the beginning of the semester in which he or she wishes to enroll. Admission decisions for suspended or dismissed students are determined by the Admissions and Credits Committee.

Other Academic Standards

Tennessee Technological University expects all students to strive for the highest academic achievement of which they are capable. Knowing that grades, once obtained, become a permanent record, the University is desirous that grades truly represent student accomplishment. A quality point average (QPA) of 2.00 is required to be eligible for the baccalaureate degree. This means that a 2.00 QPA is required over all college work taken, for all courses taken at Tennessee Tech, and for all courses taken in the major field.

It is the intention of the University to give the student ample opportunity to demonstrate satisfactory work. To achieve this purpose, a graduated retention standard scale has been adopted. A student who desires to raise his or her quality point average is encouraged to repeat

courses in which he or she has unsatisfactory grades, to consider a reduced load, and to evaluate the choice of major.

Warning. Students who fail to satisfy the minimum semester QPA standard as given in (column 2, Retention Table) will be placed on academic warning. Students who have been issued an academic warning and who fail to meet the minimum semester QPA standard (column 2, Retention Table) the next semester enrolled will be placed on academic probation. In cases where, concurrently, the semester QPA would indicate academic warning and the cumulative QPA would dictate academic probation, the student will be placed on probation.

Probation. Students who fail to maintain the cumulative or current quality point average required for unconditioned retention are placed on probation. This indicates that the quality of work performed is not satisfactory and the student is in danger of suspension unless his/her achievement shows the required improvement.

A student on probation must not enroll in more than sixteen hours and must remove the probation status the next enrolled semester by exceeding the requirements of the Academic Retention Table. A student on probation that meets the semester average requirement but does not equal the cumulative requirement of the Academic Retention Table will continue on probation.

Suspension. Any student who has been placed on probation and who fails to meet both the required cumulative QPA standard (column 1, Retention Table) and semester QPA standard (column 2, Retention Table) the next semester enrolled will be suspended for a minimum of one semester. The summer term may not be counted as the term of suspension. The only exception to the previous statement is that a student placed on probation and who earns a semester QPA of at least 2.0 (or required minimum semester QPA) the next term enrolled, but who does not raise his/her QPA to the required cumulative QPA standard (column 1), will remain on probation. A student on probation who receives grades of only “S” and/or “W” will incur academic suspension, due to the fact that his/her QPA did not meet the semester QPA standard (column 2, Retention Table). A student suspended for a second time must remain out of school for one calendar year. If a student is suspended a third time, the student will be denied enrollment in the University for a period of two calendar years. The student may wish to enroll at a community college during that time. If a student remains out of school for four years, the student is eligible to apply for “Academic Fresh Start,” which allows the student to begin a brand-new academic career.

Retention Table (Effective Fall 2010)

Cumulative Quality Hours Attempted Minus First Repeats	Required Minimum Cumulative Quality Point Average	Required Minimum Semester Quality Point Average
0.0 – 29.09	1.50	1.50
29.10 – 50.09	1.75	1.75
50.10 and above	2.00	2.00

In addition to the Tennessee Tech University standards, the School of Music meets the standards for accreditation by the National Association of Schools of Music (NASM).

The School of Music requires that all students pass all music courses with a C or better to meet program requirements. Students must also satisfy the proficiency examinations in piano. The Bachelor of Science in Music degree will culminate in a capstone experience in the Senior Project course (MUS 4010).

Equity:

Providing educational opportunities to all eligible persons without regard to age, gender, ethnicity, race, religion, national origin, disability, or sexual orientation, Tennessee Tech is committed to an inclusive and diverse campus that enriches educational experiences, promotes personal growth and a healthy society, prepares students for success in a global economy and enhances America's economic competitiveness. In addition, the campus office of Affirmative Action specifically monitors all job postings, i.e. faculty position, for adherence to federal diversity standards.

The School of Music aims to promote equity through the development and pursuit of scholarship opportunities for minority students. One such example is the Terracon Foundation Annual STEAM Scholarship for Diversity and Inclusion.

This recently funded scholarship will support students studying STEAM in the Colleges of Agriculture/Human Ecology, Arts/Science, Business, Education, Engineering, Fine Arts, or School of Nursing. The awarded annual scholarship amount will be split six ways. Students will be selected to represent each racial background at Tech (American Indian/Alaskan Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, Hispanic, and White).Terracon allows Tennessee Tech to apply for this funding twice a year, for up to $30,000 annually (up to $15,000 each application).

The development and pursuit of opportunities for minorities, such as the Terracon, are an example of how Tennessee Tech University continues to strive for equity.

Program Enrollment and Graduates:

The proposed B.S. in Music will have minimal impact on enrollment in the existing B.M. degrees. The Bachelor of Science in Music degree aims to serve transfer students, as well as students who desire greater curricular flexibility, broader content, and training for careers that don't fit the traditional models of music education and performance degrees. It will also provide a graduation pathway for students who have difficulty meeting Teacher Education requirements or upper-level performance barriers. Currently, these students are being advised to switch to Interdisciplinary Studies so they can graduate. Instead, the proposed B.S. degree will allow the School of Music to retain these students, giving them a pathway to graduation within the School of Music.

Students who begin in the proposed degree but decide to switch to the B.M. should not have any difficulty making this transition, especially with the guidance of their advisor. When looking at the curriculum during the first 4 semesters, there are very few differences. It is not until the junior year when there is a noticeable difference between the B.S. and the B.M. curriculum. These similarities allow for maximum flexibility, should a student decide to change majors.

The proposed degree has a projected attrition rate of 20%. This figure was calculated based on the 3-year retention rates of our current B.M degrees. We anticipate that the proposed degree will have

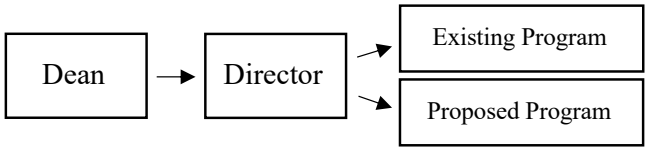
better retention than the B.M. degree due to the absence of barriers such as the PRAXIS. Although the Senior Project will be a defining benchmark, for hard-working and diligent students, it should not pose degree altering challenges.

The following table projects annual enrollments and the number of graduates during the first five years of the program accounting for an attrition rate of 20%.

Year	Academic Year	Projected Enrollment	Projected Attrition	Projected Graduates
1	2023	8	2	0
2	2024	14	2	2
3	2025	20	2	4
4	2026	26	2	8
5	2027	30	3	12

Administrative Structure:

There will be no changes in administrative structure. Dr. Colin Hill, Director of the School of Music, will serve as the administrative unit director of the proposed program.



Faculty Resources:

Because the core music courses of the Bachelor of Science in Music degree are common between existing music education and music performance degrees, there are no new faculty resources required. The School of Music currently employs 8 adjunct instructors, 1 Senior Lecturer, 8 Assistant Professors, 3 Associate Professors, and 12 Professors. The Senior Project is the only course which is not being taught at this time. The faculty that is assigned to teach the course will depend upon the nature of the project.

Current Faculty

Below is a list of name, rank, highest degree, primary department and level of involvement of all current faculty members who will participate in the program.

- Michael Adduci, D.M.A., Performance, Assistant Professor of Oboe, School of Music. (Private Lesson, Aural Techniques, Harmony, Computer Applications)
- Daniel Allcott, M.M., Cello Performance, Professor of Cello, Director Bryan Symphony Orchestra, School of Music. (Private Lessons, Bryan Symphony Orchestra, University Orchestra, Conducting)
- Wei Tsun Chang, D.M.A., Violin Performance, Professor of Violin, School of Music. (Private Lessons, String Methods, Music Appreciation)
- Mark J. Cramer, D.M.A., Clarinet Performance, Assistant Professor of Clarinet, School of Music. (Private Lessons, Clarinet Choir, Music Appreciation, Woodwind Methods)
- Greg Danner, Ph.D., Professor of Music Theory and Composition, School of Music. (Harmony, Form and Analysis, Private Lessons)
- Catherine Godes, D.M.A., Piano Performance, Professor of Piano, School of Music. (Private Lessons, Class Piano)
- Scott Hagarty, D.M.A., Trumpet Performance, Assistant Professor of Trumpet, School of Music. (Private Lessons, Trumpet Ensemble, Aural Techniques)
- Robert Fant, D.M.A., Horn Performance and Pedagogy, Interim Instructor of Horn, School of Music. (Private Lessons, Aural Techniques, horn choir)
- Eric Lynn Harris, D.M.A., Conducting and Pedagogy, Professor of Music, Associate Director of Bands. (Concert Band, Marching Band Techniques, Music Appreciation, Recording Techniques, Harmony)
- Joshua Hauser, D.M.A., Trombone Performance, Professor of Trombone, School of Music. (Private Lessons, Trombone Choir, Music Appreciation)
- Colin J. Hill, D.M.A., Percussion Performance, Associate Professor of Percussion, School of Music. (Private Lessons, Percussion Ensemble).
- Mary Matthews, D.M.A., Flute Performance, Assistant Professor of Flute, School of Music. (Private Lessons, Flute Choir)
- Chris McCormick, M.M., Jazz Studies and Contemporary Media, Professor of Music, Director of Jazz Studies, School of Music. (Jazz Ensemble, Jazz Lab Band, Jazz Arranging, Jazz History)
- Jeffrey L. Miller, II, Ph.D., Music Education, Assistant Professor, Director of Bands, School of Music. (Symphony Band, Marching Band, Conducting, Brass Methods)
- Preston Light, D.M.A., Tuba Performance, Assistant Professor of Tuba, School of Music. (Private Lessons, Tuba Ensemble)
- Wendy Mullen, D.M.A., Vocal Performance, Professor of Voice, School of Music. (Private Lessons, Music Appreciation)
- Diane Pulte, D.M.A., Vocal Performance, Professor of Voice, School of Music. (Private Lessons, Recital Class, Class Voice Instruction)
- Christopher Reames, D.M.A., Vocal Performance, Assistant Professor of Voice, School of Music. (Private Lessons, Diction, Opera Workshop)
- Paul Thurmond, M.M., Accompanying and Vocal Coaching, Instructor, School of Music. (Accompanying Chorale, Class Piano, coaching sessions)
- Jeffrey Womack, M.M., Bassoon Performance, Assistant Professor of Bassoon, School of Music. (Private Lessons, Music History and Literature, Music Appreciation)
- Matthew Younglove, D.M.A., Saxophone Performance, Assistant Professor of Saxophone, School of Music. (Private Lessons, Saxophone Choir, Honors Music Appreciation)
- Craig T. Zamer, Ph.D., Music Education/Choral Conducting, Professor, School of Music. (Concert Choir, Chorale, Mastersingers, Conducting)

Faculty Vitae

See Appendix 6 for faculty member vitae.

Library and Information Technology Resources

Resources currently available for the Bachelor of Science in Music more than suffice for this degree program. Current resources serve the Bachelor of Music in Performance, and the Bachelor of Music in Music Education. No additional materials are needed for the Bachelor of Science in Music.

Students can access resources via a discovery tool for access to the library catalog, articles, dissertations, media, eBooks, and database contents, and they have access to over 200 databases for research.

Common resources used by music students and faculty include Arts & Humanities Database, Classical Music Library, Fine Arts and Music Collection, Grove Music Online, Humanities Full Text, Music Index Online, Naxos Music Library, Naxos Music Library JAZZ, Oxford Music Online, and Salem Press. Electronic resources are available at all times from any location. Unavailable articles and books can be requested through Inter Library Loan; articles are delivered electronically, and books are physically delivered to the library. Students can also request physical materials be added to the collection. The most popular physical materials are textbook and course reserves and standardized testing materials.

There are additional library services outside the collection. Students can reserve study rooms and use technology for group work and to practice presentations. Students can also schedule appointments for free help with finding resources, developing a presentation, creating a research poster, and getting documents notarized. The library also offers free, individual peer tutoring to any student for help with courses, study skills, test prep, writing papers, and resumes. There are also special group tutoring sessions for select nursing classes to prepare for exams. Appointments and reservations for all of these services are made online.

Support Resources

The degree program is supported by a Director, four staff, twenty-three full-time faculty, and eight adjunct faculty. Over the last several years, there has been a clear emphasis on developing new mechanisms for student support at the School, College, and University levels. Students are provided with a wide variety of campus resources aimed at improving campus engagement, financial support, academic advisement, physical/mental health, and academic success.

Each music student is assigned an advisor and they are required to meet once a semester. All freshman are advised by a single launchpad advisor who specializes in music and art. All sophomores, juniors, and seniors are assigned to a single advisor who advises them for the entirety of their degree.

The proposed program is extremely flexible, as it includes 34 elective credits. For this reason, students are able to create an individual program of study that best fits their interests and future career paths. While some students will have a clear vision of their academic direction, others will need guidance through advisement.

These advisors will help students in the proposed degree program identify pathways and areas of focus that match their interests and desired career paths. Further, these advisors will be aware of the skills that local and regional employers are seeking and can steer students towards desirable areas of study. This might include minors in business, marketing, technology, and management. While individual courses may be selected, pursuing existing minors would be the preferred form of advisement. Since there are 34 credits of electives, students would have the opportunity to choose up to two minors.

To ensure that students meet the degree requirement of 36 credits at the 3000-4000 level, the 34 elective credits will be defined as the following:

Music Electives	4 credits (2 credits 3000 level or higher)
General Electives	30 credits (18 credits 3000 level or higher)

Tennessee Tech uses a platform called Degree Works to monitor degree progress. This program allows advisors to monitor degree progress (including upper-level credits), ensuring their successful progression through the degree.

Evidence of Willingness to Partner

The School of Music has a strong relationship with many local businesses, individuals, and organizations in the Cookeville community. These business partnerships include local hotels, retail stores, restaurants, real estate agencies, car companies, etc. The community continuously supports the arts in Cookeville and there have been several generous endowments in recent years. The most notable partnership lies with the Bryan Symphony Orchestra. This professional orchestra has a long and healthy relationship with the School of Music and many activities and personnel are heavily intertwined.

Other Support Currently Available

The School of Music has faculty, staff, and adjuncts who could take on additional duties to provide support. Given the multi-disciplinary nature of the proposed curriculum, additional resources are widely available across the University.

Other Support Needed

No additional faculty, staff, or support will be needed initially to successfully implement the curriculum. As the proposed degree program experiences growth, the School of Music will employ locally qualified adjunct instructors to teach additional sections. Program revenues will support the salary of any additional adjunct faculty and their needed equipment (laptop). Beyond initial marketing expenses (tabletop displays, pull-up banners, etc.), the annual marketing costs will be relatively low.

Our annual NASM accreditation fees will not be affected by the expected growth in the program.

Facilities and Equipment

Existing Facilities and Equipment

The resources currently available for the Bachelor of Music suffice for the Bachelor of Science in Music. The School of Music is housed in the Bryan Fine Arts building which was opened in January 1982. The building is shared with the School of Art, Craft, and Design. The three-level facility, of Neo-Georgian design, incorporates designs and material for the acoustical demands of music performance. These include carpeting, strategically placed drapes and baffles and other design considerations for music, teaching, and practicing.

The total usable space is as follows:

Lobby and Reception Room	868 sq.ft.
Music Recital Hall, Classrooms and Labs	9,765 sq.ft.
Faculty Studios and Offices	5,426 sq.ft.
(Art Studios)	1,899 sq.ft.
Practice Rooms	2,131 sq.ft.
Computer/MIDI Lab	408 sq.ft.
Other	2,994 sq.ft.
Total	23,491 sq.ft.

The building contains a 485 seat concert hall (Wattenbarger Auditorium) with two large dressing rooms, a 65-seat recital hall which doubles as a classroom, four additional classrooms, a rehearsal hall for instrumental ensembles, thirty-two practice rooms, twenty-four office-studios for faculty, a conference room, an electronic piano laboratory, and organ practice room, two storage rooms for uniforms and equipment, three administrative and support staff office areas, a music library room for band, orchestra and choir, a computer/MIDI lab, and a reception room.

Wattenbarger Auditorium contains two concert Steinway “D” grand pianos. Once of these was just purchased in December 2018. In addition, the hall has a harpsichord and a fifty-seven rank Schantz pipe organ. The recital hall and the instrumental rehearsal room each have a concert grand piano. Other pianos in the Bryan Fine Arts Building include:

- 12 grand pianos in the voice and piano studios, rehearsal and performance venues
- 10 upright studio pianos in faculty studios
- 26 upright studio pianos in practice rooms and classrooms
- 15 Clavinova electronic pianos in the piano laboratory and selected classrooms

The music unit own a full complement of band/orchestral instruments, including an inventory of 50 orchestral string instruments, 118 woodwind instruments, and 158 brass instruments. Percussion equipment includes state-of-the-art equipment as a set of four American Drum tympani and a set of Bergerault chimes. The percussion inventory also includes a set of Afro-Caribbean drums that were purchased in 2018.

The School of Music also utilizes equipment that digitally records and live streams all performances that take place in Wattenbarger Auditorium.

Additional Facilities and Equipment Required or Anticipated

While our facilities are adequate for the current size of our School of Music, we recognize that with significant growth, additional space will be needed. Fortunately, the Dean of the College of Fine Arts, Jennifer Shank, has identified a viable solution. The north wing of the Bryan Fine Arts building is occupied by the Tennessee Tech painting studio (School of Art, Craft, and Design). If additional space is needed to accommodate School of Music growth, Dean Shank has proposed moving the painting studio to Foundation Hall. Foundation Hall is the primary location of the School of Art, Craft, and Design.

As the proposed degree program experiences growth, additional laptops will be needed. Based on enrollment/graduation projections, we will likely hire 2 adjunct instructors during the first 5 years, amounting to 2 laptops.

Marketing and Recruitment plan

The School of Music marketing and recruitment plan for the proposed program is multifaceted. Program announcements will be sent through email and direct mailing to state and regional schools and universities, alumni, and professional music organizations. Program offerings will be promoted at conferences through recruitment booths/displays. Additionally, faculty will recruit for the program in multiple ways including: visiting high schools, serving as a guest clinician/conductor, adjudicating, and offering specific recruiting events at the School of Music.

While the School of Music aims to attract out-of-state students, recruitment efforts have primarily focused on in-state students from west, middle, and east Tennessee. To recruit for the proposed program, the School of Music plans to target community college students and musicians who want to study music, without the curricular constraints of a professional degree. The School of Music will recruit transfer students through regular on-campus visits and by providing clear advisement on the transfer process. In addition, the School of Music will launch a region-wide marketing campaign, targeting students interested in pursuing a liberal arts style degree that integrates musical studies with STEM focused experiences.

Assessment / Evaluation

The current proposal was created, reviewed, and approved by School of Music faculty. The unit's Curriculum Committee will review the degree annually, making recommendations for any additions/changes for consideration of the music faculty. SACSCOC and NASM standards will be included in any discussions concerning the degree.

Aspects of the program will also be assessed annually by the Director of the School of Music through the Academic Student Learning Outcomes and Assessment tool required for SACSCOC accreditation. Additionally, NASM reviews the unit for renewal of accreditation every ten years. The School of Music is scheduled for this Comprehensive Review in FY 2025.

For students, the Bachelor of Science in Music contains several assessment checkpoints in the program of study. All music courses must be passed with a grade of 'C' or higher to meet degree requirements. Several courses are taught in sequence, building skills and concepts in a carefully designed progression. All students must pass a piano proficiency and theory/aural skills courses before matriculating into upper division courses. In applied study (music lessons), students must present their repertoire to a

faculty panel for assessment each semester. Each student will also complete a Senior Project that will be evaluated by faculty as a Senior Capstone experience.

Accreditation

The Tennessee Technological University School of Music is accredited by the National Association of Schools of Music and the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

The curricular structure for the Bachelor of Science in Music adheres to NASM standards (IV.C.4, IV.C.6., and VII.). Application for program accreditation can be submitted once the degree has received university approval.

Funding

No additional funds are needed to initiate this degree. Additional funding may be needed as enrollment grows, but these minimal costs should be offset by student tuition. If additional funding is needed, the University has recently developed a new course fee structure, and these funds are available to the School of Music for equipment and technology purchases/upgrades. Further, as enrollment increases in the proposed program, the revenue generated from these students will fund the additional resources needed for growth. Please see page 25 for additional details.

Appendix 1

Feasibility Study

Summary and Viability

Since labor market conditions, particularly labor demand, are dependent on the output market, some discussion of what music produces is helpful. Degree holders in music may pursue careers that generate music-related goods and services. On a spectrum, these goods and services may be relatively income elastic within a certain range, implying that individuals are likely to increase their quantity demanded for them by proportionally more than some initial rise in income. This may be the case during an economic expansion, or conversely, in an economic contraction. This makes goods and services related to music particularly vulnerable to business cycles. As a result, the demand for labor, which is derived from the demand for the output good, may also be sensitive.

However, the results in the feasibility study show that music majors find employment in fields seemingly unrelated to their specialty. Individuals pursuing these alternative career paths may gain some degree of immunity to economic downturns, offering those employed with a layer of job security.

The analysis performed using the IPUMs database suggest unique and dynamic labor market conditions for the music major. In TN, music majors find employment in seemingly unrelated occupations such as education, business, sales and administrative support. A significant share (over one-third) find employment in business-related occupations. Also, the path of lifetime earnings for TN music majors appears to stagnate in a worker's later years when compared to national trends.

The proposed degree was designed to provide a core musical experience, while encouraging study in expanded areas. When compared to the other two existing B.S. Music degrees in Tennessee (APSU and TSU), the proposed degree has the highest elective total in the state (34 credits). Further, this degree incorporates these electives starting in the first semester, allowing the student to create a deep connection with their secondary area(s). Lastly, replacing the senior recital with a senior project, allows the student to pursue a capstone project in their secondary area, or a collaboration between both disciplines.

The survey results for the proposed degree in Music show that close to a majority share of freshmen-junior level students expressed a high interest in the program, while over a majority share indicated they would enroll in the program.

Because business cycles, or fluctuations in real GDP around the long-run trend, are considered short run phenomenon, the viability of the music degree in the short run maybe uncertain. As degree holders find new employment opportunities resulting from structural shifts in the economy, they may settle into jobs that are less vulnerable to economic swings. As a result, the proposed music degree may become more viable in the long run.

In summary, the viability of the proposed degree program in this study depends on several factors, several of which cannot be measured here. Labor market conditions, and how they respond to output market conditions, will dictate the demand for this proposed degree. Further, the survey results from this study may not always correlate with the actions respondents take in real life. The combination of these things add a large degree of uncertainty in forecasting the viability of the new program.

General Disclaimer

Independence: The thoughts and views of the authors of this study are based on their professional judgement and were not influenced by an outside party and do not present a known conflict of interest.

The Economics: Making predictions on the viability of a new academic program in the short and long run depends on many factors, many of which are not measured in this study. Input (labor market) and output markets play a critical role in this process. For instance, it is important to understand how a new degree will affect labor markets, and thus, the nominal wage. There are also feedback effects to consider regarding how the market influences the degree.

Ideally, understanding an output or input market begins with characterizing the structure of the market along a spectrum. The four main market structures in the output market are the Monopoly, Oligopoly, Monopolistic Competition, and Perfect Competition. Similar structures exist for the input markets. This study does not include an analysis of market structure.

Although earnings in the marketplace are not the only return one receives for their talents and skills, the focus of this study is largely on the monetary aspect associated with a proposed degree program. This study places a large focus on input markets, but does not consider the wide range of nonmonetary factors that may encourage someone to seek a new degree.

The interplay between output and input markets, the timing of these markets, and economic shocks, are just some of the elements that should be accounted for in the prediction process. Overall, this makes forecasting very complex and difficult. Because these factors are not considered here, caution should be taken when considering the summary analysis in this study.

Feasibility Study:

1. Introduction

The School of Music at Tennessee Tech is submitting a proposal for a Bachelor of Science in Music. This proposed degree includes core music courses as well as electives students can choose that will help them pursue a specific career.

This feasibility study will assess the proposed degree program in the following areas, as outlined in the THEC guidelines: student interest, local and regional demand/need, employer need/demand, future sustainable need/demand, and in some cases, a section for external research. In some instances, there may be an unavoidable overlap of information provided across the regional and employer demand. This is because the demand for labor, whether regional or state-level, can be understood to be generated by firms.

2. Potential Student Interest

2.1 Survey Overview

This report summarizes the results of a survey instrument used to assess student interest of the proposed degree program. The survey instrument was constructed to parallel standard surveys used by

higher education institutions to appraise students' attractiveness to a potential degree program. In accordance with the Tennessee Higher Education Commission (THEC) approval process of new academic programs, the School of Music has employed Tennessee Tech University (TTU) College of Business faculty to collect and summarize prospective student interest data as a part of a feasibility study. The results from the survey instrument, in compilation with other report information, will be used to determine the program's potential.

2.2 Survey Methods

The survey was distributed to current TTU undergraduates majoring in Music. The undergraduate students were separated into two groups. Students classified as freshman, sophomore, and junior were surveyed separately as group one and senior level undergraduates as group two. The online survey instrument was developed using Qualtrics, "a powerful and multifaceted on-line data collection/survey tool".[7] The survey was administered via email invitation to students from March 27, 2019 through April 5, 2019. During this period, recipients were reminded of the survey and encouraged to participate. Each survey group received the same survey instrument. The following description was sent to all students.

"The School of Music is in the process of gaining approval to offer a Bachelor of Science in Music degree. This liberal arts degree would require the core music classes (harmony, aural skills, piano proficiency, applied study at 1 hour credit, music history, etc.), general education courses, plus several elective hours. With these electives, students could pursue a minor in another area of study, or apply them to music courses in their area of interest. The degree will be an option for new students and also an option for current students who decide they do not want to pursue music education or performance, but want a degree in music."

The survey questions were designed to gauge student interest in the proposed degree program. Questions addressed key areas of importance such as students' strength of interest, potential date of enrollment, and the benefits of the program to the students' future endeavors. Demographic information was collected and students were permitted to share their viewpoint of the program in an open-ended question format.

2.3 Description of Sample

Current undergraduates of Music were invited to participate in the survey. Of the 80 freshman, sophomore, and juniors surveyed, 34 responded for a 42.5% response rate. Twenty-three of the forty-four undergraduate seniors yielded response rate of 52.27%. The table below summarizes the data collected from survey instrument.[8]

2.4 Results

The response rates of both groups were satisfactory for the purpose of this study. The questionnaire required students to select an answer choice to proceed to the next question. The

[7] https://www.tntech.edu/institute/services/qualtrics-software

[8] Approximately 1 undergraduate freshman, sophomore, junior participant and 4 seniors partially completed the survey; however, their inputs are retained in the results.

questionnaire contained 8 questions. Seven questions were multiple choice and the eighth question was open-ended. The survey began with the question, "[h]ave you read the description of the proposed Bachelor of Science Degree in Music?" The purpose of the question was to ensure that all participants understood the proposed program and could informatively answer the questions that followed. If the student was not aware of the program description, he/she was given the option to review it before continuing the survey. The description was reviewed by all Music students before continuing to answer the questionnaire.

Approximately 40.63% freshman-junior respondents signaled high interest in the start-up of this program offering, with 64% of these students desiring to enroll in the program immediately if the program commenced in Fall 2019. When students were asked if the proposed degree program better aligned with their future endeavors than currently offered degree programs, 36% selected "definitely yes" and 32% selected "probably yes", while 16% indicated the degree program did not better align with future ventures.

Due to the nature of the questionnaire, this study thought it best to identify the current status of senior-level students, as the likelihood of attending and interest in the newly proposed program could be affected by the proximity to graduation. Seventeen percent of senior-level respondents were very interested in the program, and 34.78% moderately interested. Fifty percent of seniors estimated enrolling in the program immediately if offered. Approximately 16.67% of senior respondents consider the proposed degree program to be better aligned with their future careers than the presently offered degree program.

The table below displays the results of each survey question.

Student Interest Survey Results for Proposed Degree Program in Music: Bachelor of Science Degree in Music				
Identify your current academic status	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Freshman	14	41.18	N/A	N/A
Sophomore	15	44.12	N/A	N/A
Junior	5	14.71	N/A	N/A
First Semester Senior	N/A	N/A	11	44
Second Semester Senior	N/A	N/A	12	48
Senior Status For More Than 2 Semesters	N/A	N/A	2	8
Have you read the description of the proposed Bachelor of Science Degree in Music which was enclosed in the email with the link to this survey?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Yes	21	63.64	14	60.87
No, but I would like to review the description	12	36.36	9	39.13
No, and I would not like to review the description	0	0	0	0
To what extent are you interested in pursuing studies toward a Bachelor of Science Degree in Music if offered at Tennessee Tech University?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Very	13	40.63	4	17.39
Moderately	12	37.5	8	34.78
Not at all	7	21.88	11	47.83
Is a Bachelor of Science Degree in Music better aligned with your future endeavors than currently offered degree programs?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Definitely yes	9	36	2	16.67
Probably yes	8	32	3	25
Might or might not	4	16	3	25
Probably not	3	12	4	33.33
Definitely not	1	4	0	0
How soon would you enroll in the proposed Bachelor of Science Degree in Music if one were to be established in Fall 2019?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Immediately	16	64	6	50
1 year	N/A	N/A	1	8.33
2 years	5	20	0	0
3 years	0	0	N/A	N/A
Not at all	4	16	5	41.67
If this program moves forward, would you like to be kept informed?	**Freshman, Sophomore, Junior Count**	**Freshman, Sophomore, Junior Respondents %**	**Senior Count**	**Senior Respondents %**
Yes	30	93.75	14	66.67
No	2	6.25	7	33.33

Student Reponses to Open-Ended Survey Question: "If you would like to share other thoughts as it pertains to your interest in the proposed degree program, please do so below" [9]

Freshman, Sophomore, Junior Reponses:

- Sounds like a great idea for people who want to pursue music outside of education or performance purposes! I am not interested simply because I want to be a music teacher, but I believe this sounds like a great idea!
- I believe that this degree would be a great addition to the music department
- It would help me focus on other music that interests me more than the standard classical, which takes up the majority of my time. It takes a huge load off since I don't really want to do classical music for my career.
- Not everyone has a firm grasp on whether they want to teach or perform, so rather than picking one or even double majoring, a degree in Music is a great way to establish middle ground without any pressure to make a decision on that. It's a flexible degree which can later be used to refine for a graduate degree. Thanks a lot.
- I am hoping to eventually do music therapy, so this is exactly what I would like.

Senior Responses:

- A Bachelor of Music degree does not seem to present a significant opportunity for employment without pursuing Graduate school after undergraduate studies. And education degree is the most well-rounded degree you can get. The performance expectations are just as high as a performance degree, plus the knowledge, resources, and experience accumulated during the course of an education degree are so vast in scope that any field of study beyond that of an undergraduate degree is well supported by an education degree. A bachelor of science degree seems to leave an individual with less experience, less knowledge, and less resources to use after graduation. It seems, to me, like the easy way out of a music degree. "The path of least persistence".
- This would be amazing for people who want/need a degree in music but don't want to pursue education specifically. Such as, music therapy, music business, composition, etc.
- I've had a large interest in music therapy, and believe that a degree program like this would help students with interests outside specifically performance or education be able to gear classes to their independent goals, such as therapy, commercial music, business, technology, etc. It seems like the programs that were aimed toward therapy or business in the past failed because it was too small of a niche, and there weren't enough students to support entire majors dedicated to each program. This seems like a great step in the right direction, to begin building up other areas of music study for a more diverse program.
- Good opportunity for the university to further its academic program options
- It's hard enough for people to find a job with a music degree in either performance or education. (Not to mention having a music degree is a joke now a days) I think there's not a point in going in music if you aren't doing one or the other. I think music business should be the alternative. BUT there should be MUSIC business classes. Not just music classes and then business classes. You might as well minor in one or the other and it be the same thing. With a music business degree that would give students that think performance or education isn't what they want, an option of managing an orchestra, or

[9] Note, student responses were not altered to prevent misinterpretation of viewpoint.

studio, or shops. But I'm sure you all have made your decision on this other degree program already without our input anyways so..

- I think this is a terrible idea. As this degree is a comp out for people who are unable to do the normal requirements of a Ed or performance music major. I think that the school should just let people fail instead of try to keep their numbers up and create a degree that is easier for people who can not achieve the real deal. This is a step down for tech and it is a bad move.
- I think this degree will help our School of Music better recruit students interested in music composition and theory.
- I think I'm theory this is a good idea, but I do not see a good application for this degree. If an individual is interested in university teaching or music therapy, an education degree would be, from what I know and believe, much more beneficial. For those interested in doing music business, a degree we do not offer, I think it may be beneficial, but a performance or Ed degree still seems like better options. It seems to be an easier path to getting a music degree. If we're doing this so that more people have an opportunity to earn a degree, so that we can graduate more students are we focused on the quantity of students in our program, or the quality of student we produce in the program. I would like to think quality is the first priority, and that comes from requiring hard work, dedication, and providing the most well-rounded, in-depth experience possible, not create a path of least persistence.

3. Local and Regional Need/Demand

Undergraduate degrees provide general market skills that can be used in many different occupations, and make the acquisition of specific skills easier and more efficient once a graduate is hired by an employer. It is quite common for college graduates to find employment in occupations that are seemingly unrelated to their undergraduate major. This is not an indication of a slack in demand, of excess supply of specific degree holders, or a mistake in the choice of major. It is the normal operation of a dynamic labor market that allocates available skills to employers who demand those skills.

We use the 2017 Integrated Public Use Microdata Series (IPUMS) database from the American Community Survey of the BLS.[10] Most BLS data are in the form of aggregated tables. IPUMS data are at the individual level. This allows for the construction of customized tables that can accommodate specific comparisons of interrelated variables.

Tennessee residents who hold an undergraduate degree in music find employment in many diverse occupations. Table 1 shows the top six occupations of Tennessee music majors. Note that musicians would be classified as ``Arts, Design, Entertainment, Media", indicating that very few (14.2%) music majors become employed as musicians. This is very close to the proportion in the US population (14.7%). More Tennessee music majors are in education than are employed as musicians. Also note that the last four occupations in Table 1 are all business-related occupations, so that we could conclude that over one-third (37.9%) end up in business. The

[10] Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas, and Matthew Sobek. IPUMS USA: Version 9.0 [dataset]. Minneapolis, MN: IPUMS, 2019. https://doi.org/10.18128/D010.V9.0

occupational distribution of Tennessee music majors is very similar to that of US music majors, though more Tennessee majors end up in business, and fewer in education.

Table1: Top Occupations for TN Music Majors (in percent)

Occupation:	TN Music Majors	USA Music Majors
Education, Training, Library	20.6	30.0
Arts, Design, Entertainment, Media	14.2	14.7
Management, Business, Science/Art	13.9	11.1
Office and Administrative Support	11.8	9.4
Sales and Related Occupations	6.9	6.7
Business Operations Specialists	5.3	3.5

Table 2 reports statistics on the distribution of earnings of music majors in Tennessee and compares it to the distributions of US music majors, Tennessee workers in general, and all US workers. The average annual earnings of music majors in Tennessee, regardless of current occupation, is $47166. This is substantially less than average of $50989 for all music majors in the US. This likely is the result of differences in real earnings across all occupations in the US, as evidenced by comparing the average earnings of all Tennessee workers to the average earnings of all US workers. Tennessee's music majors earn 93% of US music majors' earnings, while all Tennessee workers earn only 87% of all US workers' earnings.

Table 2: Earnings Distributions Comparisons

	TN Music Majors	US Music Majors	All TN Workers	All US Workers
mean	47166	50989	39634	45499
median	36000	40000	29000	31000
std deviation	55499	57600	49403	56281
1st quartile	19000	18000	13300	14700
3rd quartile	56000	65000	50000	57000

The differences in the dispersion of earnings is also of interest. The variation of earnings of Tennessee music majors is about the same as that of US music majors, and all US workers. But the variation of all Tennessee workers is the smallest of the four. Although the standard deviation and first quartile of Tennessee music majors is very close to that of US music majors, the third quartile is much lower for Tennessee music majors. This indicates that the distribution of US music majors is more positively-skewed.

Whatever the differences in mean earnings, the biggest comparative difference that Tennessee music majors has is in the age-earnings profile. Typically, we observe that as workers age, their earnings increase, reaching a peak somewhere in the 50s to early 60s, and then decline. Table 3 shows the average earnings at various age groups.

Table 3: Mean Earnings by Age Group

Age Group:	TN Music Majors	US Music Majors	All TN Workers	All US Workers
Less than 30	27862	27106	18995	21397
30-50	57452	56323	45331	53088
50-65	55032	64268	52304	58854
Over 65	40050	47937	40895	43773

The age-earnings profile of US music majors, all Tennessee workers, and all US workers all follow the usual profile. But Tennessee music majors' earnings peak earlier, and decline much more rapidly, than the comparison groups. This may imply that while younger Tennessee music majors enjoy the same earnings as the national average, future earnings may not increase as fast.

According to national statistics published by the Bureau of Labor Statistics (bls.gov), 44.7% of music majors are employed as musicians or teachers and 30.7% are employed in general business positions.[5] In Tennessee, only 34.8% of music majors find employment as musicians or teachers, while 37.9% end up in business.[5] This 17% swing from the national average, likely means that a higher percentage of TN music majors will end up in business related jobs, rather than music and education positions. This is further justification for the proposed degree, which has a broader curriculum and academic scope.

Further, when comparing the job force of Putnam County (Tennessee Tech University), to the surrounding region, there are fewer jobs available per capita in the field of music and education. In Putnam County, there are approximately 34,000 jobs.[5] Of these 34,000 jobs, 8.4% are in education and music (2,848 positions).[5]

[5] Overview of BLS Statistics by Occupation. *Bureau of Labor Statistics*. Retrieved March 3, 2021, from https://www.bls.gov/bls/occupation.htm

When compared to the surrounding region, this is a significantly lower percentage. In Nashville, 10.3% of the 360,000 jobs are in education and music (36,994 jobs) [5] and in Knoxville, 10% of the 90,000 jobs are in education and music (9,039 jobs). [5]

Since there are fewer music jobs available per capita in Putnam County, compared to the surrounding region (Nashville and Knoxville), and Tennessee music majors are statistically more likely to end up in a business-related job than in music/education positions (17% swing from the national average), there is a strong local and regional need for the proposed degree due to its interdisciplinary focus and broader academic curriculum. Music students who graduate with the proposed degree will be better equipped to seek employment in business related positions and music positions that don't follow the traditional models of music performance/education.

4. Employer Need/Demand

In this section, focus is placed on assessing the employment opportunities and job outlook for the proposed Bachelor's degree in Music. The following section presents data and information obtained from the BLS and related sources. We investigate data from the BLS and related sources, such as location quotients, state and area data, and salary to gain a big picture view of music occupations. As mentioned earlier, there may be some overlap of information across the regional demand section and here. This is because labor markets do not treat these headings as mutually exclusive. In addition, regional demand and employer exhibit a dependent nature.[116]

A student may seek the Bachelor of Science in Music to fulfill a desire for a liberal arts education and/or to obtain a "generalist" degree in music (Hill, Colin, LON). Particular occupations in the marketplace, as defined by the Bureau of Labor and Statistics, that may accommodate the proposed degree are broad and diverse. Government statistics are available based on occupations that are directly, or indirectly related to music. Although this information is valuable, it lacks the insight on where music majors are finding employment along with other critical aspects in the marketplace. Therefore, this study includes alternative data from IPUM (discussed in an earlier section) that investigates questions not be addressed by the BLS.

4.1 Snapshot

As part of gaining a big picture view, or snapshot of occupations in music, the Bureau of Labor Statistics provides data in the Occupational Employment Statistics repository (OES). After a careful review of this particular database, focus was placed on the general heading Arts, Design, Entertainment, Sports, and Media Occupations (OES Group ID Appendix 1B). There are several sub-occupational definitions under this description that make reference to music, such as Musicians, Singers, and Related Workers (27-2040),[6] Music Directors and Composers (27-2041), Musicians and Singers (27-2042), and Entertainers and Performers, Sports and Related Workers, All Other (27-2099) (OES Sub-Group Appendix 1B). However, there is no single occupation defined as "music" listed in the OES. And although the "music degree holder" may

[5] Overview of BLS Statistics by Occupation. *Bureau of Labor Statistics*. Retrieved March 3, 2021, from https://www.bls.gov/bls/occupation.htm

[6] DiFurio, Ferdinand. Feasibility Study on Music.

[7] Detailed information was not available for this occupation, such as LQs and related employer data.

find employment in related and seemingly non-related fields, Table 4 summarizes key information for the aforementioned occupations to provide a baseline for the reader

Table 4: OES Occupational Descriptions

Headings	Nt'l mean hourly wage
Musicians, Singers, and Related Workers	34.11
Music Directors and Composers	29.56
Musicians and Singers	35.86
Entertainers and Performers, Sports and Related Workers, All Other	23.15

The BLS includes information on occupations under the Occupational Outlook Handbook database (Handbook). It is not definitively clear how this information coincides with the Occupation Economic Statistics (OES). Because of this, this section will analyze select occupations from this database as part of the feasibility study.

Under the aggregated category entitled Entertainment and Sports Occupations, the following sub-occupations are listed: Actors, Athletes and Sports Competitors, Coaches and Scouts, Dancers and Choreographers, Music Directors and Composers, Musicians and Singers, and Producers and Directors.

We focus on the OES occupational category "Music Directors and Composers" as a baseline reference. This occupation cross-lists many jobs that a music major can attain (Directors, Cross-list Appendix 1B), such as music adapters, music arrangers, music conductors, and music copyists.[7]

The 2017 annual national median pay for Music directors and composers is listed as $50,590.

The entry level of education required for this occupation is a Bachelor's degree (no field specified), and the number of jobs nationally listed at 74,800. The job outlook and employment change forecasted nationally for the period 2016-2026 is 6% and 4,300 respectively (Music directors, Job Outlook, Appendix 1B).

The BLS provides information on the job description for Music Directors and composers. Some of the select descriptions of directors include "select musical arrangement and compositions to be performed for live audiences or recording, direct rehearsals to prepare performances and recording, and meet with potential donors and attend fundraisers" (Music Directors, Job Description, Appendix 1B). Composers "write original music that orchestras, bands, and other musical groups perform, meet with orchestras, musical groups, and other who are interested in commissioning a

[7] The BLS cross-references the Music Professor with Post-secondary Teachers. Drama, Art, Music Teachers: Post-secondary is covered in this study briefly under the analysis using the OES repository. See section A.4. It is also worthwhile mentioning that Music video directors and Music video producers are cross-listed with Producers and directors in general. There are several other occupations listed that could qualify as a baseline reference. However, to accommodate various resource constraints of the feasibility study, this particular choice was made. In addition, information is provided by the BLS on post-secondary teaching careers in music. However, the School of Music already offers a Music Education degree that is separate from the proposed Bachelor's degree in Music.

piece of music, and work with musicians to record their music" (Music Directors, Job Description, Appendix 1B).

The job outlook reported by the BLS for music directors and composers is expected to be consistent with the average growth for all occupations (Music directors, Job Outlook, A.4). However, the BLS report suggests the market may realize some resistance from competition in the labor market along with funding challenges for performance venues and the arts in general (Music directors, Job Outlook, Appendix 1B).

The BLS reports 74,800 jobs nationally for Music directors and composers in 2016, and projects 79,100 jobs for 2026. Extended data is available in an Employment by Industry excel file (Music Directors, Projections Central, Excel, Appendix 1B). The reader can observe where Music directors and composers are finding employment. A relatively large share of employment is held at educational institutions, self-employment, and Religious, grantmaking, civic, professional, and similar organizations (Music Directors, Projections Central, Employment by Industry, Excel, Appendix 1B). When this outcome should be coupled with the information in IPUM section 3.4 that reveals "music" majors are also finding employment in several, seemingly unrelated occupations.

To answer the question of "Which employers hire music majors and related?" the work environment provided by the BLS can be explored. The BLS reports the largest of employers of music directors and composers as listed in Table 5 (Music Directors, Work Enviro, Appendix 1B). Also listed in the table are annual average wages for Music directors and composers by the top paying employers (Music Directors, Pay, Appendix 1B).

Table 5: Employers of Music Directors and Composers

Headings	% of total	Pay of Music Directors and composers by top employers
Religious, grantmaking, civic, professional, and similar organizations	56%	$40,560
Self-employed workers	26	N/A
Elementary and Secondary schools: state, local, and private	12	$54,690
Performing arts companies	3	$53,870

4.2 Location Quotients

As a way of assessing industry-intensity for employment in music-related occupations, location quotients are investigated. Location quotients provide a measure of the employment concentration for a particular job. A quotient of greater than one "indicates the occupation has a

higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average." (LQ).[7]

The location quotients for the state of TN for Music Directors and Composers, Musicians and Singers, Entertainers and Performers, Sports and Related Workers are 1.24, 2.60, and 1.00 respectively is listed in TN (LQ, Music Directors and Composers Appendix 1B ; LQ, Musicians and Singers ; LQ, Entertainers and Performers). There are likely geographical areas throughout the state that offer above average employment in music-related sectors that may explain the magnitudes of these indices. It is well known that in parts of Tennessee, the share of employment in sectors related to music composition, song writing, record producing, and supporting occupations is relatively high compared to other parts of the country.

4.3 State and Area data

State and Area data for Music Directors and composers can be obtained via the OES database that links from the Occupational Handbook (Music Directors, State and Area, Appendix 1B). In the state of TN, there are a reported 390 jobs under Music directors and composers for May of 2017.

The annual mean wage is provided by state for the period May 2017. A map is provided below that compares regions of U.S. (Music Directors, Maps, Appendix 1B). There are clusters of high-salary states in the Northeast region with a scattered distribution of relatively high-salary states throughout the nation. Tennessee does not report data for this map. More information on the geographical distribution, metropolitan versus nonmetropolitan, of pay and employment is listed in the Appendix (Music Directors, Metro, Appendix 1B).

The BLS provides additional information for State and Area within an external research site entitled Projections Central. Short-term Occupational Projections for Music directors and composers in TN from 2018 – 2020 are estimated to go from 1,630 in 2018 to 1,670 in 2020, representing a 2.5% change with an annual average number of jobs available at 180 (Music Directors, Projections Central, Excel, Appendix 1B).[12] Long-term occupational projections for Music directors and composers in TN from 2016 to 2026 are estimated to go from 1,640 in 2016 to 1,790 in 2026, representing a 9.1% change (vs. 5.7% for the nation), with an annual average number of jobs available at 180.

4.4 Industry Profiles

An Industry Profile, which is a list of employers that hire the most (as measured in levels) for this occupation of Music Directors and Composers, includes Elementary and Secondary Schools, Religious Organizations, Performing Arts Companies, Colleges, Universities, and Professional Schools, Independent Artists, Writers, and Performers. Industries with the highest concentration

[7] The BLS provides a definition of a location quotient as: "The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average." The value of the LQ is listed for TN.
https://www.bls.gov/oes/current/oes272041.htm#(9)

[12] A short-term rate of change was not available for the nation for Music directors and composers.

of jobs for Music Directors and Composers include Religious Organizations, Performing Arts Companies, Sound Recording Industries, Independent Artists, Writers, and Performers, and Motion Picture and Video Industries. The top paying industries include Independent Artists, Writers and Performers, Sound Recording Industries, Performing Arts Companies, Promoters of Performing Arts, Sports, and Similar Events, and Junior Colleges (IP Music Directors and Composers Appendix 1B).

For Musicians and Singers, the Industry Profiles for the most employers, highest concentration of jobs, and top paying sectors are similar to those listed for the previously listed Music Directors and Composers (IP Musicians and Singers Appendix 1B). There are a few exceptions for this occupational definition: Promoters of Performing Arts, Sports and Similar events are among the highest employers (levels) unique to this definition, and Local Government, excluding schools and hospitals are listed among the top paying sectors.

For Entertainers and Performers, many of the same occupations listed as the most employers (levels), highest share of jobs, and top paying industries are cross-listed with the other occupations listed previously. Some that are unique for Entertainers and Performers, et al. include Traveler Accommodation, Independent Artists, Writers, and Performers, and Drinking Places for highest employers, highest share of employers and top paying sectors respectively (IP Entertainers and Performers Appendix 1B).

The BLS provides information on similar occupations to Music directors and composers, many of which could accommodate degree holders of the proposed bachelor's degree in music. These include Actors, Dancers and Choreographers, High School teachers ($59,170), Kindergarten and elementary school teachers ($56,900), Middle School teachers ($57,720), Musicians and Singers, Postsecondary Teachers ($76,000), Producers and Directors ($71,620), and Writers and Authors ($61,820).[11] (Music Directors, Projections Central, Excel, Appendix 1B).

The curriculum of the proposed degree will provide students with the skills needed to seek employment as music directors and composers. To direct any musical ensemble, conducting skills are required. For this reason, students are required to take two semesters of Conducting (3 credits). Musical directors must also be able to teach basic music theory and hear errors in rehearsal. Therefore, the proposed degree requires 4 semesters of music theory (10 credits) and 4 semesters of Aural Techniques (4 credits). If the student plans to be a choral director, they must be to accompany their choirs on the piano. For this reason, the proposed degree requires 2-4 semesters of piano.

If a student is particularly interested in directing k-12 ensembles, all music education courses can be taken as electives. These courses include Marching Band Techniques, Materials and Methods in Music (K-5), Materials and Methods in Music (6-12), String Pedagogy and Literature, and Choral Pedagogy and Literature.

The curriculum of the proposed degree will also prepare students to become successful composers. Composers must be strong at written and aural music theory and have a strong understanding of various musical styles, genres, and composers. Therefore, the proposed degree

[11] Figures in parentheses are 2017 Median wage reported for the occupations.

requires 4 semesters of music theory (10 credits), 4 semesters of Aural Techniques (4 credits), and 2 semesters of Music History (6 credits). Composers must also be proficient with music notation software and basic recording techniques so they can notate and document their compositions. For this reason, the proposed degree includes two music technology courses, Computer Applications in Music and Recording Techniques.

If a student is particularly interested in composition, all composition courses may be taken as electives (Instrumentation, Jazz Arranging, Repertoire and Literature, Form and Analysis, Contemporary Music, Music Business and Entrepreneurship, Improvisation I/II, Private Composition Lessons.

5. External Research

There is additional information provided by the BLS that is external to the government's database. These resources include the National Association of Schools of Music, Future of Music Coalition, Music Composers and Arrangers, Music Directors, and Music Directors and Composers (Music Directors, More information, Appendix 1B).

The National Association of Schools of Music (NASM) was started in 1924 and states in its purpose to "advance the course of music in American life and especially in higher education, to establish and maintain threshold standards for the education of musicians, while encouraging both diversity and excellence, and provide a national forum for the discussion of issues related to these purposes" (NASM).

A record of job listings for this organization reveals the following:

- Position of Accreditation Assistant
- Position of Editorial and Programming Assistant

It is important to point out that these positions require and/or state as preferable a college degree in the arts and/or a degree in performing arts. These are a few examples of how the proposed Bachelor's degree in Music may help students seeking these positions in the Arts Industry (Music Directors, NASM, Appendix 1B)

The Future of Music Coalition offers several resources to those in the music industry. A particular research project conducted by this group is Money from Music Quizzes. The study stresses the need for musicians to understand the fiscal aspects of the music industry along with copyright laws, licenses and agreements. The marketplace for these services may accommodate the degree holder in Music (Music Directors, Future of Music Coalition, Appendix 1B).

As part of providing more information for the music major in the marketplace, the BLS provides another alternative resource. The Career Outlook reference, which provides information on "careers for music lovers," is briefly summarized here (Music Directors, Career Outlook, Appendix 1B).

Within the field of music, there are many jobs to filled that support the performance component. These jobs are also likely to accommodate a degree holder with a Bachelor's degree in Music. The BLS highlights Broadcast and sound engineer technicians along with music teachers.

In terms of assessing the employment outlook, the BLS points out that obtaining reliable data on wages and employers is difficult since careers in music are broad and diverse. Many occupations within music have different titles and are indirectly related. For this reason, predicting where the music major will find employment is not clear. However, the broad-based skillset of the music major can offer a spectrum of employment opportunities in a competitive labor market.

6. Summary and Viability

Since labor market conditions, particularly labor demand, are dependent on the output market, some discussion of what music produces is helpful. Degree holders in music may pursue careers that generate music-related goods and services. On a spectrum, these goods and services may be relatively income elastic within a certain range, implying that individuals are likely to increase their quantity demanded for them by proportionally more than some initial rise in income. This may be the case during an economic expansion, or conversely, in an economic contraction. This makes goods and services related to music particularly vulnerable to business cycles. As a result, the demand for labor, which is derived from the demand for the output good, may also be sensitive.

However, the results in the feasibility study show that music majors find employment in fields seemingly unrelated to their specialty. Individuals pursuing these alternative career paths may gain some degree of immunity to economic downturns, offering those employed with a layer of job security.

The analysis performed using the IPUMs database suggest unique and dynamic labor market conditions for the music major. In TN, music majors find employment in seemingly unrelated occupations such as education, business, sales and administrative support. A significant share (over one-third) find employment in business-related occupations. Also, the path of lifetime earnings for TN music majors appears to stagnate in a worker's later years when compared to national trends.

The proposed degree was designed to provide a core musical experience, while encouraging study in expanded areas. When compared to the other two existing BS Music degrees in Tennessee (APSU and TSU), the proposed degree has the highest elective total in the state (34 credits). Further, this degree incorporates these electives starting in the first semester, allowing the student to create a deep connection with their secondary area(s). Lastly, replacing the senior recital with a senior project, allows the student to pursue a capstone project in their secondary area, or a collaboration between both disciplines.

The survey results for the proposed degree in Music show that close to a majority share of freshmen-junior level students expressed a high interest in the program, while over a majority share indicated they would enroll in the program.

Because business cycles, or fluctuations in real GDP around the long-run trend, are considered short run phenomenon, the viability of the music degree in the short run maybe uncertain. As degree holders find new employment opportunities resulting from structural shifts in the economy, they may settle into jobs that are less vulnerable to economic swings. As a result, the proposed music degree may become more viable in the long run.

In summary, the viability of the proposed degree program in this study depends on several factors, several of which cannot be measured here. Labor market conditions, and how they respond to output market conditions, will dictate the demand for this proposed degree. Further, the survey results from this study may not always correlate with the actions respondents take in real life. The combination of these things add a large degree of uncertainty in forecasting the viability of the new program.

Appendix 1b: References with Graphics

OES Group ID: 27-0000

https://www.bls.gov/oes/current/oes_nat.htm#27-0000

Occupational Employment Statistics

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May 2017 National Occupational Employment and Wage Estimates

United States

These estimates are calculated with data collected from employers in all industry sectors in metropolitan and nonmetropolitan areas in every state and the District of Columbia.

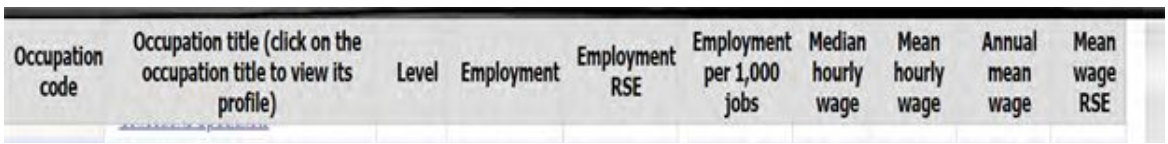
Additional information, including the hourly and annual 10th, 25th, 75th, and 90th percentile wages, is available in the downloadable XLS file.

Major Occupational Groups (**Note**--clicking a link will scroll the page to the occupational group):

- 00-0000 All Occupations
- 11-0000 Management Occupations
- 13-0000 Business and Financial Operations Occupations
- 15-0000 Computer and Mathematical Occupations
- 17-0000 Architecture and Engineering Occupations
- 19-0000 Life, Physical, and Social Science Occupations
- 21-0000 Community and Social Service Occupations
- 23-0000 Legal Occupations
- 25-0000 Education, Training, and Library Occupations
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
- 29-0000 Healthcare Practitioners and Technical Occupations
- 31-0000 Healthcare Support Occupations
- 33-0000 Protective Service Occupations
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations
- 41-0000 Sales and Related Occupations
- 43-0000 Office and Administrative Support Occupations
- 45-0000 Farming, Fishing, and Forestry Occupations
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations
- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations

OES Sub-Group 27-0000

https://www.bls.gov/oes/current/oes_nat.htm#27-0000



Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE

27-2040	Musicians, Singers, and Related Workers	broad	55,570	2.4%	0.390	$25.95	$34.11	(4)	2.0%
27-2041	Music Directors and Composers	detail	15,400	3.2%	0.108	$24.32	$29.56	$61,490	2.8%
27-2042	Musicians and Singers	detail	40,170	3.1%	0.282	$26.96	$35.86	(4)	2.4%
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	detail	11,440	17.7%	0.080	$17.09	$23.15	(4)	3.0%

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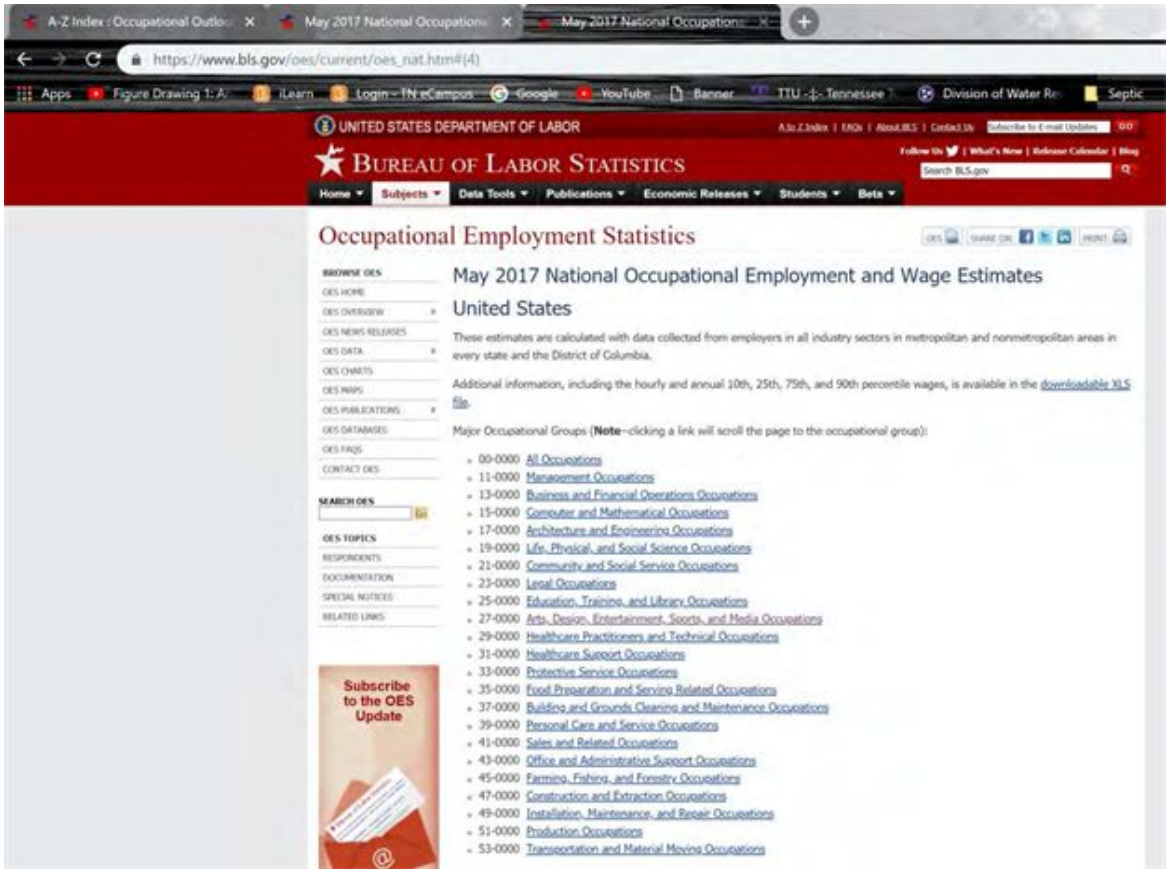
7.1

https://www.bls.gov/ooh/a-z-index.htm#M

OES Group ID: 27-0000 https://www.bls.gov/oes/current/oes_nat.htm#(4)



7.1

IP Music Directors and Composers

Industry profile for this occupation: Top

Industries with the highest published employment and wages for this occupation are provided. For a list of all industries with employment in this occupation, see the Create Customized Tables function.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Elementary and Secondary Schools	6,100	0.07	$27.90	$58,030
Religious Organizations	4,430	2.29	$26.64	$55,420
Performing Arts Companies	2,500	1.97	$34.35	$71,450
Colleges, Universities, and Professional Schools	500	0.02	$32.46	$67,510
Independent Artists, Writers, and Performers	380	0.73	$34.52	$71,810

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Religious Organizations	4,430	2.29	$26.64	$55,420
Performing Arts Companies	2,500	1.97	$34.35	$71,450
Sound Recording Industries	170	1.01	$34.36	$71,480
Independent Artists, Writers, and Performers	380	0.73	$34.52	$71,810
Motion Picture and Video Industries	370	0.09	(8)	(8)

Top paying industries for this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Independent Artists, Writers, and Performers	380	0.73	$34.52	$71,810
Sound Recording Industries	170	1.01	$34.36	$71,480
Performing Arts Companies	2,500	1.97	$34.35	$71,450
Promoters of Performing Arts, Sports, and Similar Events	90	0.07	$33.93	$70,570
Junior Colleges	110	0.02	$32.82	$68,270

Geographic profile for this occupation: Top

States and areas with the highest published employment, location quotients, and wages for this occupation are provided. For a list of all areas with employment in this occupation, see the Create Customized Tables function.

IP Musicians and Singers

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Performing Arts Companies	20,210	15.97	$38.43	(4)
Religious Organizations	9,500	4.91	$37.24	(4)
Colleges, Universities, and Professional Schools	2,330	0.08	$28.31	(4)
Promoters of Performing Arts, Sports, and Similar Events	1,520	1.08	$36.65	(4)
Elementary and Secondary Schools	1,520	0.02	$25.32	(4)

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Performing Arts Companies	20,210	15.97	$38.43	(4)
Religious Organizations	9,500	4.91	$37.24	(4)
Independent Artists, Writers, and Performers	1,010	1.97	$29.25	(4)
Promoters of Performing Arts, Sports, and Similar Events	1,520	1.08	$36.65	(4)
Sound Recording Industries	180	1.07	$41.79	(4)

Top paying industries for this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Sound Recording Industries	180	1.07	$41.79	(4)
Local Government, excluding schools and hospitals (OES Designation)	340	0.01	$40.82	(4)
Performing Arts Companies	20,210	15.97	$38.43	(4)
Other Amusement and Recreation Industries	(8)	(8)	$38.05	(4)
Religious Organizations	9,500	4.91	$37.24	(4)

IP Entertainers and Performers

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Motion Picture and Video Industries	1,750	0.41	(8)	(8)
Performing Arts Companies	1,400	1.11	$23.15	(4)
Spectator Sports	1,150	0.81	$17.97	(4)
Independent Artists, Writers, and Performers	1,000	1.94	$31.74	(4)
Traveler Accommodation	860	0.04	$26.08	(4)

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Independent Artists, Writers, and Performers	1,000	1.94	$31.74	(4)
Performing Arts Companies	1,400	1.11	$23.15	(4)
Spectator Sports	1,150	0.81	$17.97	(4)
Promoters of Performing Arts, Sports, and Similar Events	630	0.45	$16.61	(4)
Motion Picture and Video Industries	1,750	0.41	(8)	(8)

Top paying industries for this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Business, Professional, Labor, Political, and Similar Organizations	30	0.01	$33.90	(4)
Independent Artists, Writers, and Performers	1,000	1.94	$31.74	(4)
Employment Services	90	(7)	$29.54	(4)
Traveler Accommodation	860	0.04	$26.08	(4)
Drinking Places (Alcoholic Beverages)	350	0.09	$24.52	(4)

IP Art, Drama https://www.bls.gov/oes/current/oes251121.htm

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Colleges, Universities, and Professional Schools	69,360	2.30	(4)	$78,610
Junior Colleges	17,910	2.43	(4)	$78,270
Other Schools and Instruction	6,920	1.62	(4)	$83,410
Technical and Trade Schools	560	0.42	(4)	$55,160
Performing Arts Companies	150	0.12	(4)	$72,970

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Junior Colleges	17,910	2.43	(4)	$78,270
Colleges, Universities, and Professional Schools	69,360	2.30	(4)	$78,610
Other Schools and Instruction	6,920	1.62	(4)	$83,410
Technical and Trade Schools	560	0.42	(4)	$55,160
Performing Arts Companies	150	0.12	(4)	$72,970

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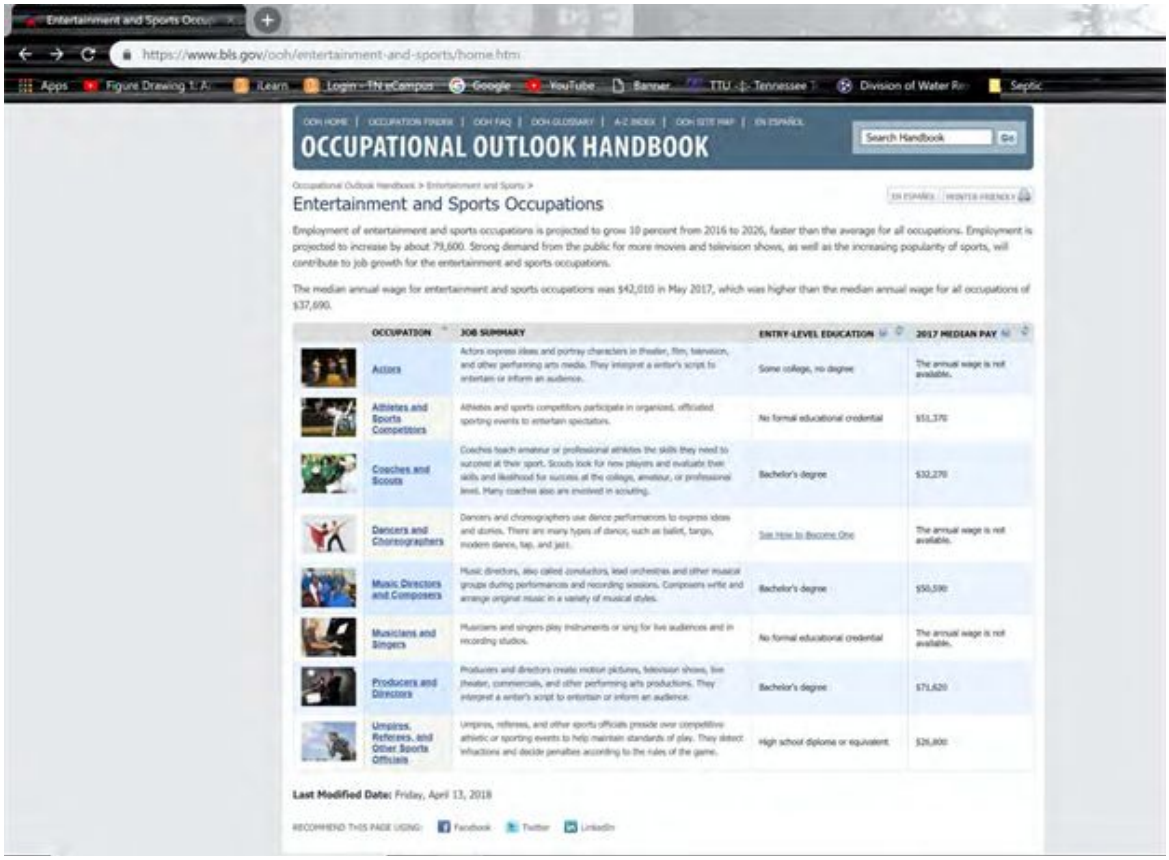
Performing Arts Companies	150	0.12	(4)	$72,970
Technical and Trade Schools	560	0.42	(4)	$55,160



https://www.bls.gov/ooh/entertainment-and-sports/home.htm

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Motion Picture and Video Industries	1,750	0.41	(8)	(8)
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Employment Services	90	(7)	$29.54	(4)
Traveler Accommodation	860	0.04	$26.08	(4)
Drinking Places (Alcoholic Beverages)	350	0.09	$24.52	(4)

IP Art, Drama

https://www.bls.gov/oes/current/oes272041.htm

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Colleges, Universities, and Professional Schools	69,360	2.30	(4)	$78,610
Junior Colleges	17,910	2.43	(4)	$78,270
Other Schools and Instruction	6,920	1.62	(4)	$83,410
Technical and Trade Schools	560	0.42	(4)	$55,160
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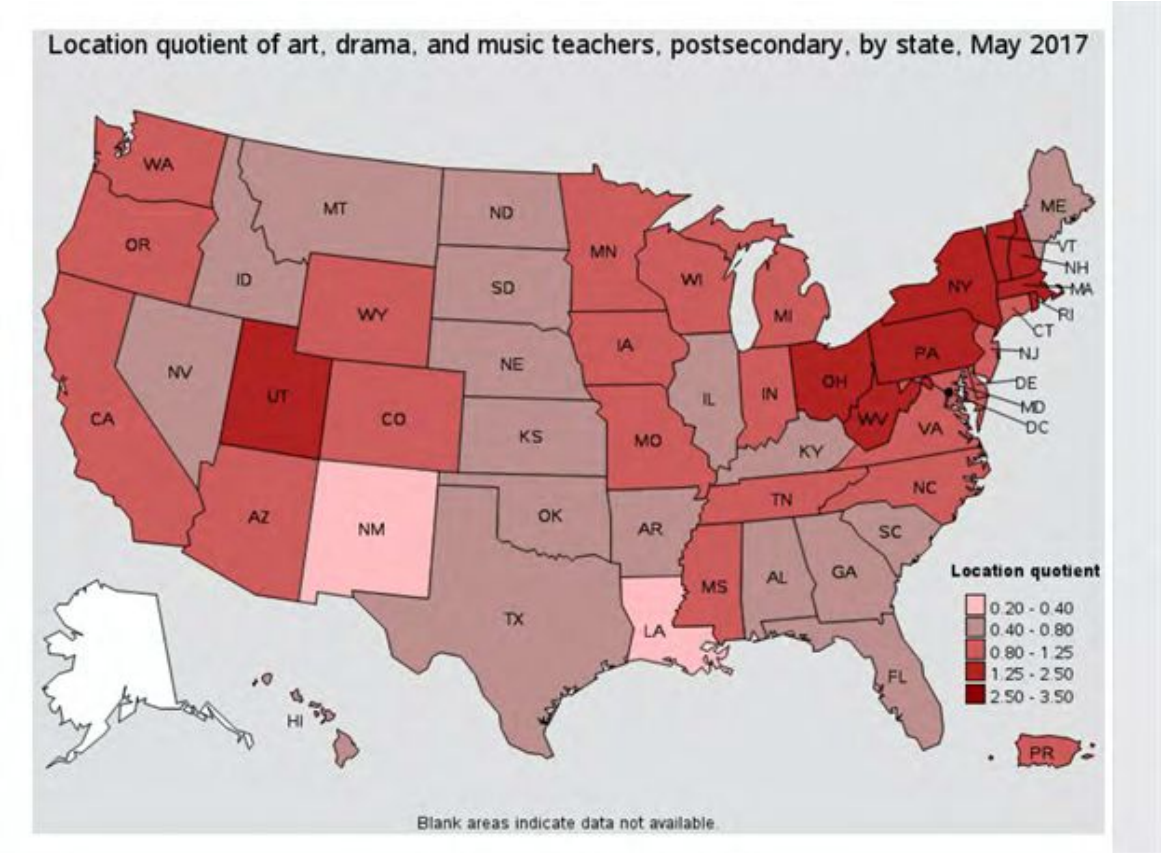
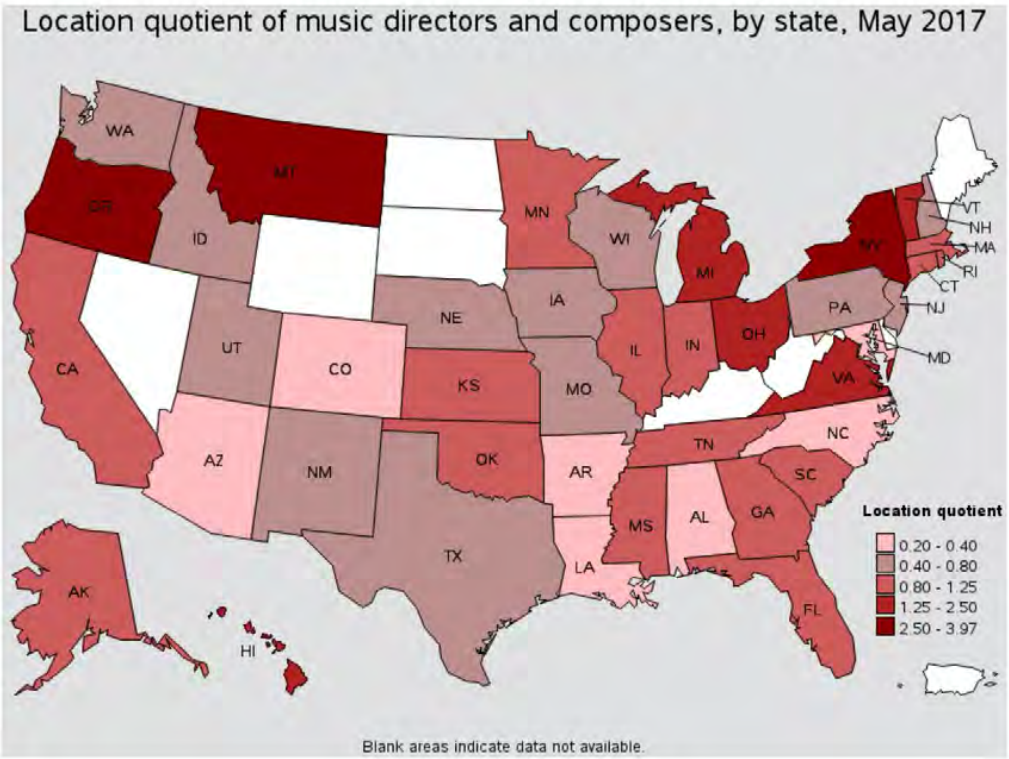
Junior Colleges	17,910	2.43	(4)	$78,270
Performing Arts Companies	150	0.12	(4)	$72,970
Technical and Trade Schools	560	0.42	(4)	$55,160

LQ, Art, Drama and music teachers, postsecondary



LQ, Music Directors and Composers

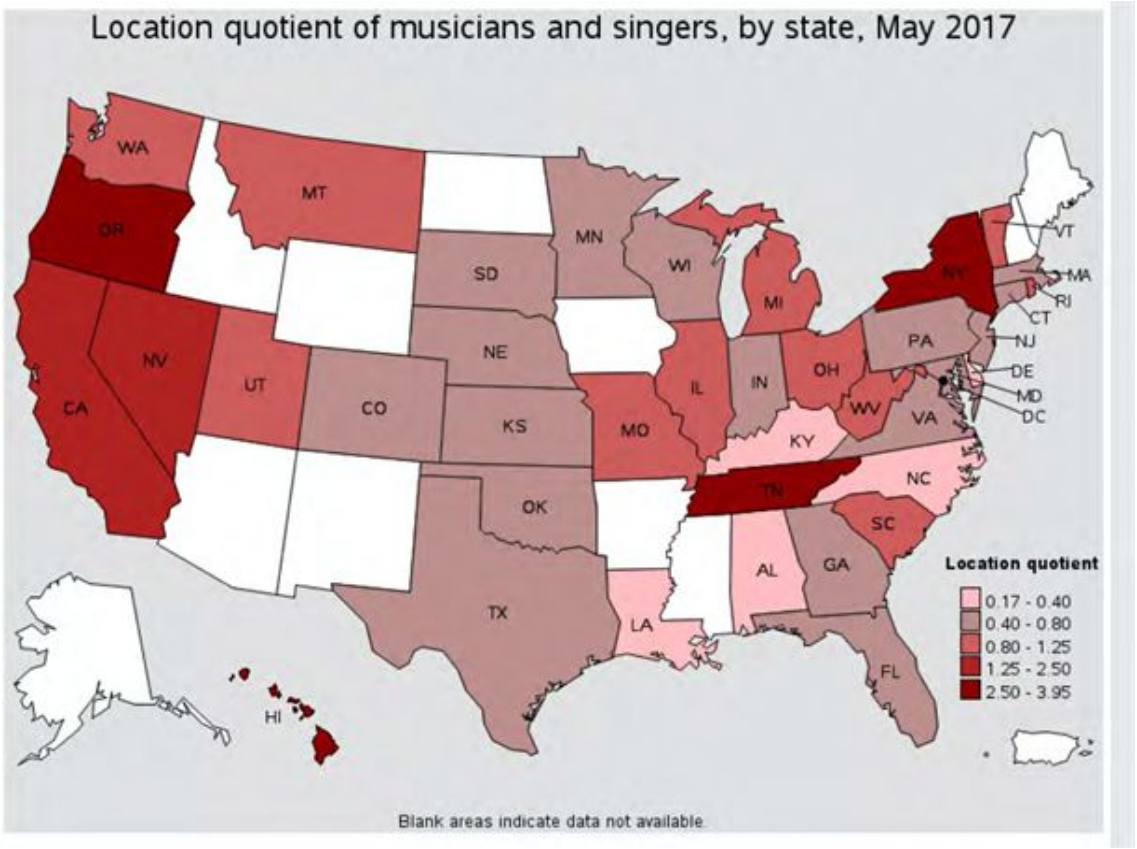


For Music Directors:

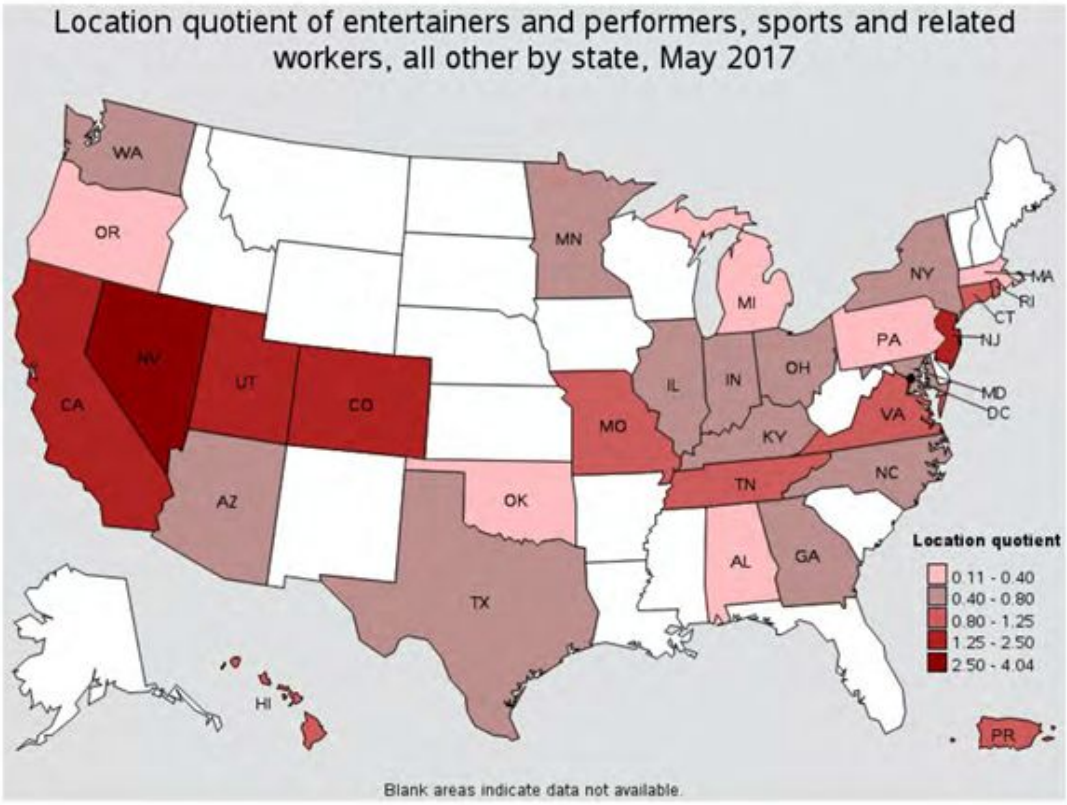
States with the highest employment level in this occupation:

State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York	2,920	0.32	2.94	$37.43	$77,850
California	1,850	0.11	1.02	$29.08	$60,480
Texas	940	0.08	0.73	$27.44	$57,070
Ohio	820	0.15	1.42	$30.23	$62,870
Oregon	790	0.43	3.97	$21.50	$44,730

LQ, Musicians and Singers



LQ, Entertainers and Performers

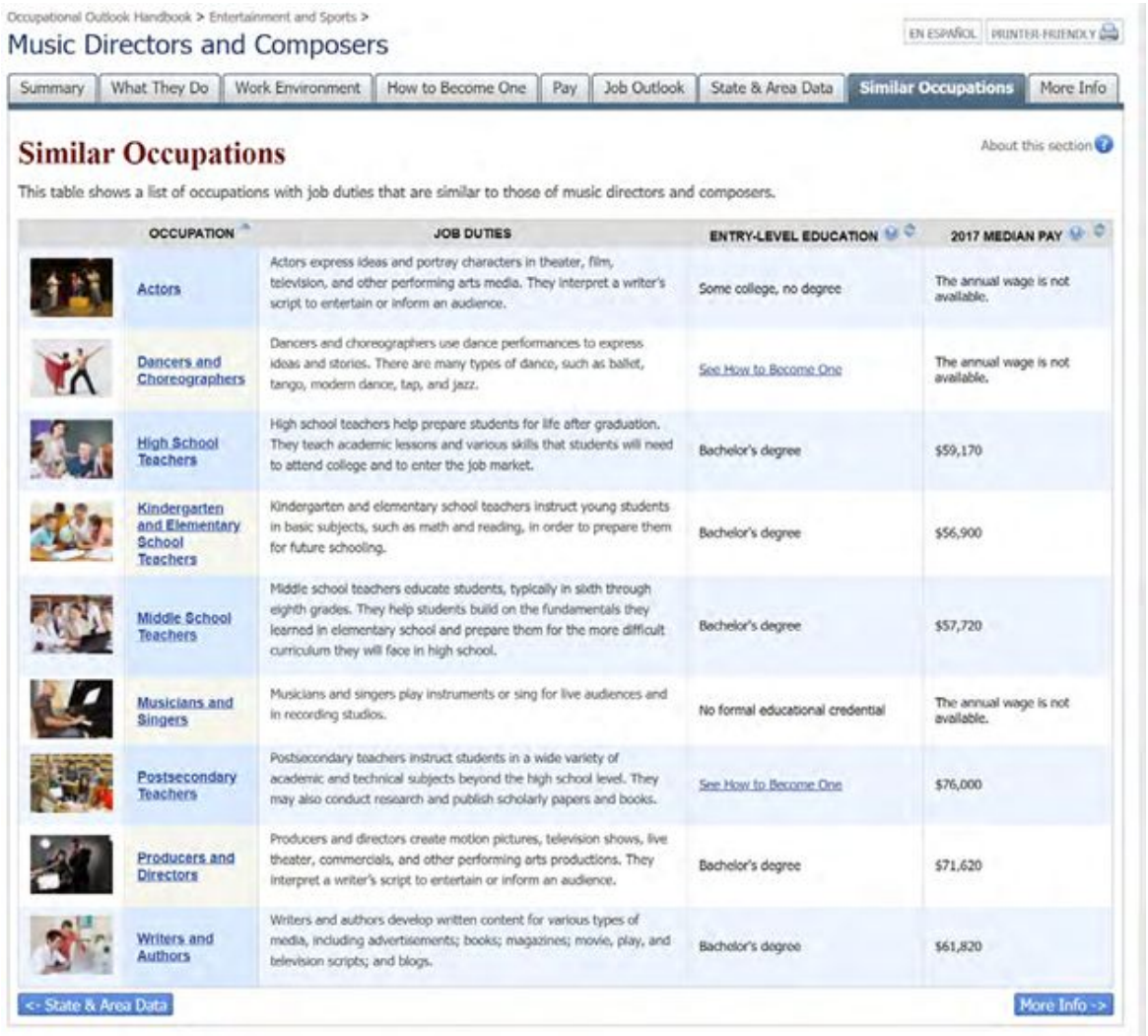


---------- Link to the OES

https://www.bls.gov/oes/current/oes_nat.htm#27-0000

Directors, Similar Occupation

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-8



Occupational Outlook Handbook > Entertainment and Sports >

Music Directors and Composers

EN ESPAÑOL | PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | **Similar Occupations** | More Info

Similar Occupations

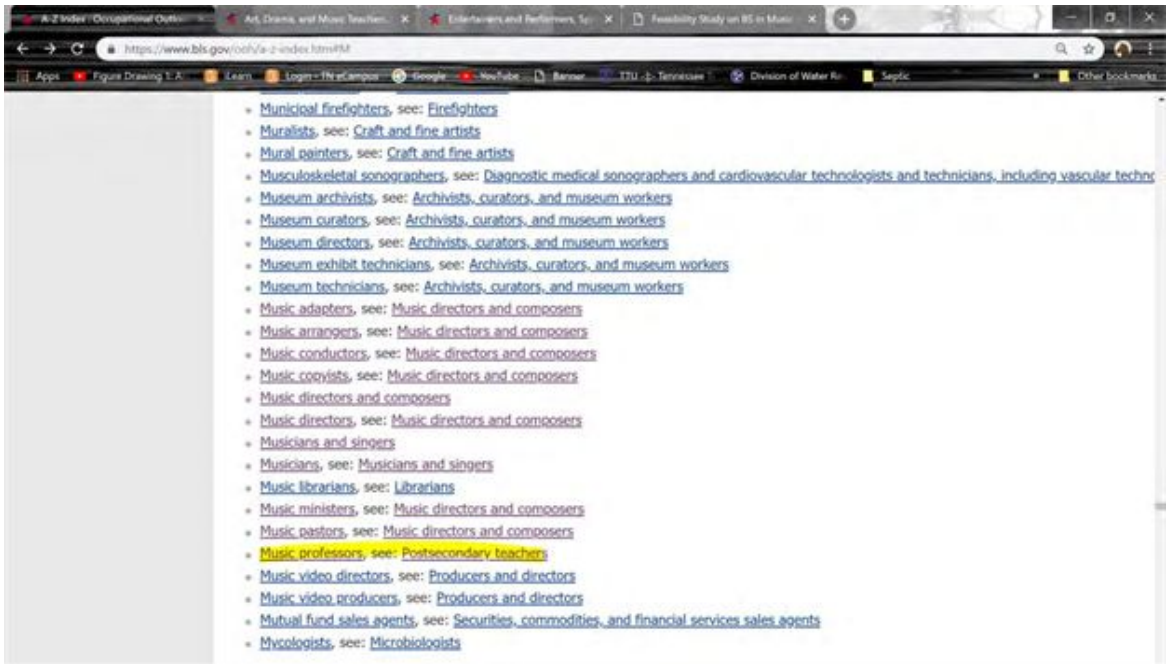
About this section

This table shows a list of occupations with job duties that are similar to those of music directors and composers.

OCCUPATION	JOB DUTIES	ENTRY-LEVEL EDUCATION	2017 MEDIAN PAY
Actors	Actors express ideas and portray characters in theater, film, television, and other performing arts media. They interpret a writer's script to entertain or inform an audience.	Some college, no degree	The annual wage is not available.
Dancers and Choreographers	Dancers and choreographers use dance performances to express ideas and stories. There are many types of dance, such as ballet, tango, modern dance, tap, and jazz.	See How to Become One	The annual wage is not available.
High School Teachers	High school teachers help prepare students for life after graduation. They teach academic lessons and various skills that students will need to attend college and to enter the job market.	Bachelor's degree	$59,170
Kindergarten and Elementary School Teachers	Kindergarten and elementary school teachers instruct young students in basic subjects, such as math and reading, in order to prepare them for future schooling.	Bachelor's degree	$56,900
Middle School Teachers	Middle school teachers educate students, typically in sixth through eighth grades. They help students build on the fundamentals they learned in elementary school and prepare them for the more difficult curriculum they will face in high school.	Bachelor's degree	$57,720
Musicians and Singers	Musicians and singers play instruments or sing for live audiences and in recording studios.	No formal educational credential	The annual wage is not available.
Postsecondary Teachers	Postsecondary teachers instruct students in a wide variety of academic and technical subjects beyond the high school level. They may also conduct research and publish scholarly papers and books.	See How to Become One	$76,000
Producers and Directors	Producers and directors create motion pictures, television shows, live theater, commercials, and other performing arts productions. They interpret a writer's script to entertain or inform an audience.	Bachelor's degree	$71,620
Writers and Authors	Writers and authors develop written content for various types of media, including advertisements; books; magazines; movie, play, and television scripts; and blogs.	Bachelor's degree	$61,820

<- State & Area Data | More Info ->

Directors, Cross-list



Music directors, Job Outlook

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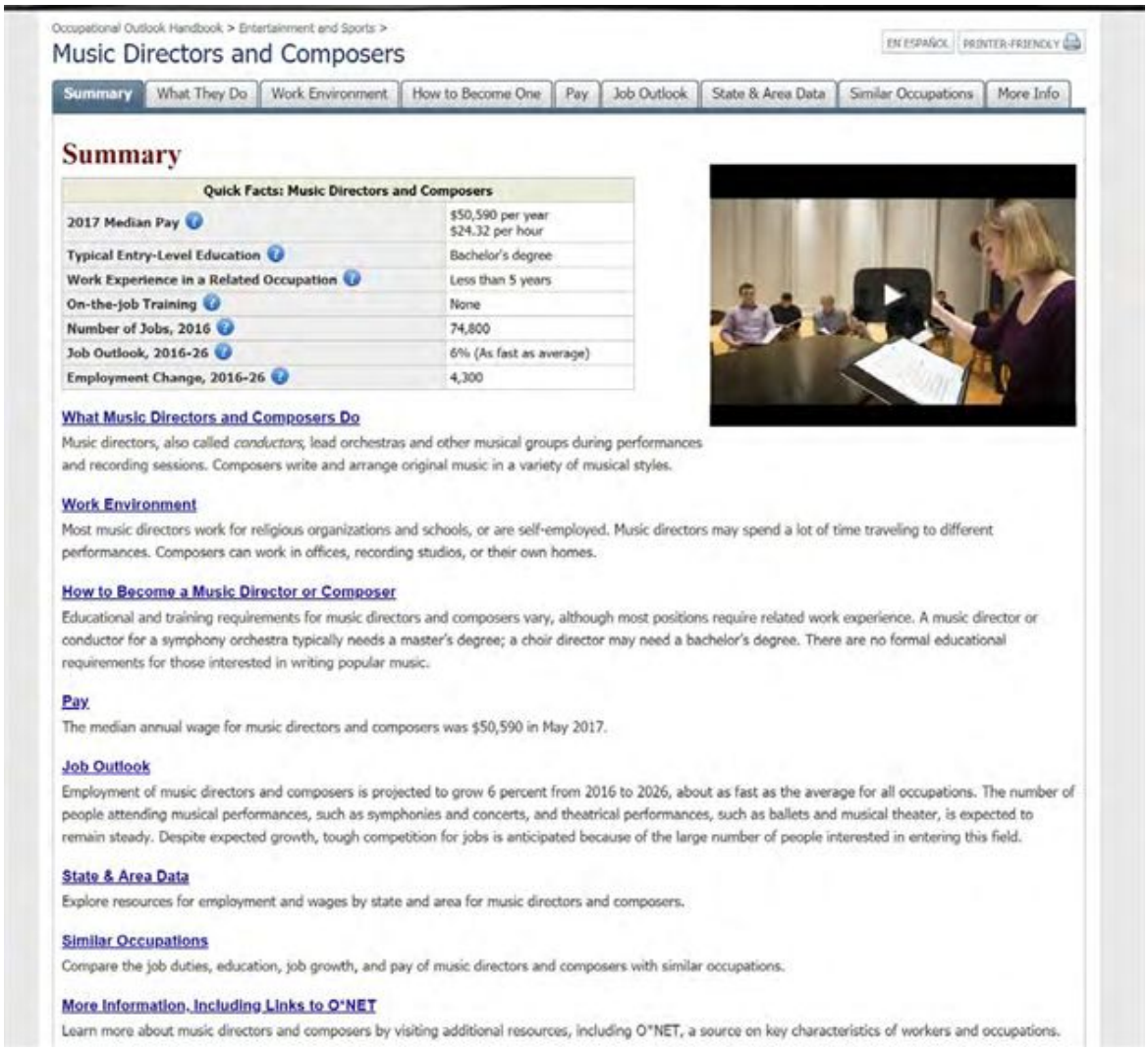


Occupational Outlook Handbook > Entertainment and Sports >

Music Directors and Composers

EN ESPAÑOL PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | Similar Occupations | More Info

Summary

Quick Facts: Music Directors and Composers	
2017 Median Pay	$50,590 per year $24.32 per hour
Typical Entry-Level Education	Bachelor's degree
Work Experience in a Related Occupation	Less than 5 years
On-the-job Training	None
Number of Jobs, 2016	74,800
Job Outlook, 2016-26	6% (As fast as average)
Employment Change, 2016-26	4,300

What Music Directors and Composers Do

Music directors, also called *conductors*, lead orchestras and other musical groups during performances and recording sessions. Composers write and arrange original music in a variety of musical styles.

Work Environment

Most music directors work for religious organizations and schools, or are self-employed. Music directors may spend a lot of time traveling to different performances. Composers can work in offices, recording studios, or their own homes.

How to Become a Music Director or Composer

Educational and training requirements for music directors and composers vary, although most positions require related work experience. A music director or conductor for a symphony orchestra typically needs a master's degree; a choir director may need a bachelor's degree. There are no formal educational requirements for those interested in writing popular music.

Pay

The median annual wage for music directors and composers was $50,590 in May 2017.

Job Outlook

Employment of music directors and composers is projected to grow 6 percent from 2016 to 2026, about as fast as the average for all occupations. The number of people attending musical performances, such as symphonies and concerts, and theatrical performances, such as ballets and musical theater, is expected to remain steady. Despite expected growth, tough competition for jobs is anticipated because of the large number of people interested in entering this field.

State & Area Data

Explore resources for employment and wages by state and area for music directors and composers.

Similar Occupations

Compare the job duties, education, job growth, and pay of music directors and composers with similar occupations.

More Information, Including Links to O*NET

Learn more about music directors and composers by visiting additional resources, including O*NET, a source on key characteristics of workers and occupations.

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm

Music Directors and Composers

EN ESPAÑOL | PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | **Job Outlook** | State & Area Data | Similar Occupations | More Info

Job Outlook

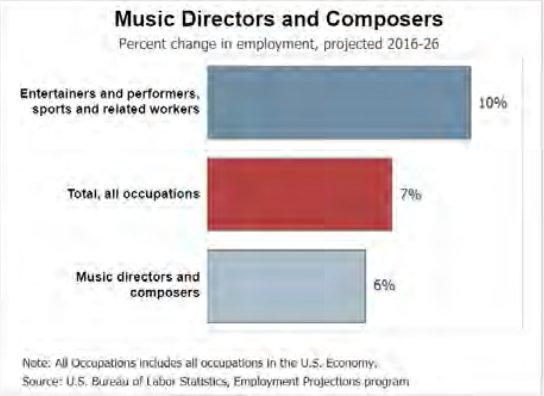
About this section

Employment of music directors and composers is projected to grow 6 percent from 2016 to 2026, about as fast as the average for all occupations.

The number of people attending musical performances, such as symphonies and concerts, and theatrical performances, such as ballets and musical theater, is expected to remain steady. Music directors will be needed to lead orchestras for concerts and musical theater performances. They also will conduct the music that accompanies ballet troupes and opera companies.

In addition, there will likely be a need for composers to write original music and arrange known works for performances. Composers will be needed as well to write film scores and music for television and commercials.

However, growth is expected to be limited because orchestras, opera companies, and other musical groups can have difficulty getting funds. Some music groups are nonprofit organizations that rely on donations and corporate sponsorships, in addition to ticket sales, to fund their work. These organizations often have difficulty finding enough money to cover their expenses. In addition, growth may be limited for music directors in schools due to struggles with school funding, and music programs may be cut.



Job Prospects

Despite expected growth, tough competition for jobs is anticipated because of the large number of people interested in entering this field. In particular, there will be considerable competition for full-time music director and composer positions. Candidates with exceptional musical talent and dedication should have the best opportunities.

Music directors and composers may experience periods without work. During these times, they may work in other occupations, give music lessons, attend auditions, or write music.

Employment projections data for music directors and composers, 2016-26

Occupational Title	SOC Code	Employment, 2016	Projected Employment, 2026	Change, 2016-26 Percent	Change, 2016-26 Numeric	Employment by Industry
Music directors and composers	27-2041	74,800	79,100	6	4,300	xlsx

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

<- Pay | State & Area Data ->

Music Directors, Job Description

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-2

Music Directors and Composers

What Music Directors and Composers Do

About this section

Music directors, also called *conductors*, lead orchestras and other musical groups during performances and recording sessions. Composers write and arrange original music in a variety of musical styles.

Composers write and arrange original music in a variety of musical styles.

Duties

Music directors typically do the following:

- Select musical arrangements and compositions to be performed for live audiences or recordings
- Prepare for performances by reviewing and interpreting musical scores
- Direct rehearsals to prepare for performances and recordings
- Choose guest performers and soloists
- Audition new performers or assist section leaders with auditions
- Practice conducting to improve their technique
- Meet with potential donors and attend fundraisers

Music directors lead orchestras, choirs, and other musical groups. They ensure that musicians play with one coherent sound, balancing the melody, timing, rhythm, and volume. They also give feedback to musicians and section leaders on sound and style.

Music directors may work with a variety of musical groups, including church choirs, youth orchestras, and high school or college bands, choirs, or orchestras. Some work with orchestras that accompany dance and opera companies.

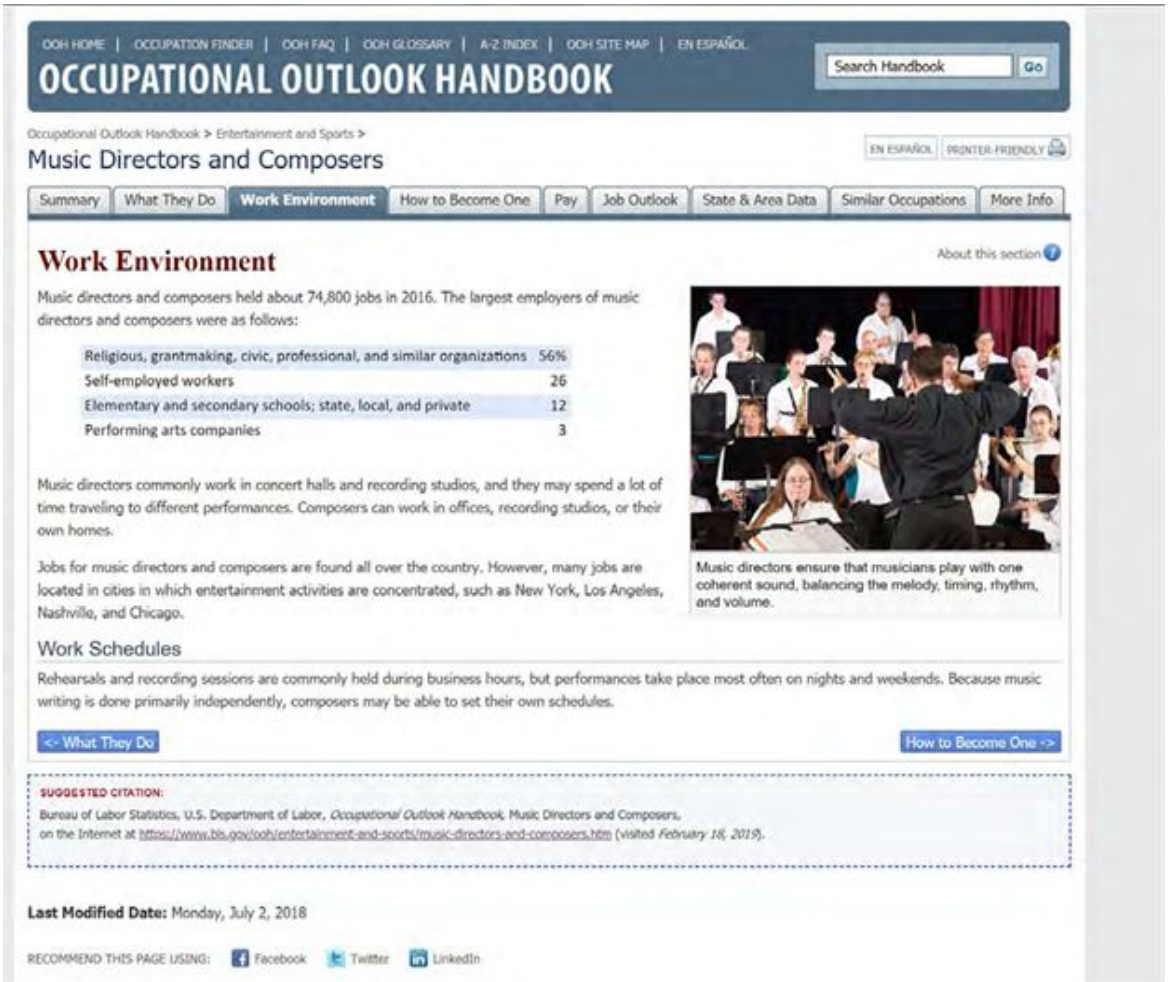
Composers typically do the following:

- Write original music that orchestras, bands, and other musical groups perform
- Arrange existing music into new compositions
- Write lyrics for music or work with a lyricist
- Meet with orchestras, musical groups, and others who are interested in commissioning a piece of music
- Study and listen to music of various styles for inspiration
- Work with musicians to record their music

Composers write music for a variety of types of musical groups and users. Some work in a particular style of music, such as classical or jazz. They also may write for musicals, operas, or other types of theatrical productions.

Music Directors, Work Enviro

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-3



OOH HOME | OCCUPATION FINDER | OOH FAQ | OOH GLOSSARY | A-Z INDEX | OOH SITE MAP | EN ESPAÑOL

OCCUPATIONAL OUTLOOK HANDBOOK

Search Handbook Go

Occupational Outlook Handbook > Entertainment and Sports >

Music Directors and Composers

EN ESPAÑOL PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | Similar Occupations | More Info

Work Environment

About this section

Music directors and composers held about 74,800 jobs in 2016. The largest employers of music directors and composers were as follows:

Religious, grantmaking, civic, professional, and similar organizations	56%
Self-employed workers	26
Elementary and secondary schools; state, local, and private	12
Performing arts companies	3

Music directors commonly work in concert halls and recording studios, and they may spend a lot of time traveling to different performances. Composers can work in offices, recording studios, or their own homes.

Jobs for music directors and composers are found all over the country. However, many jobs are located in cities in which entertainment activities are concentrated, such as New York, Los Angeles, Nashville, and Chicago.

Music directors ensure that musicians play with one coherent sound, balancing the melody, timing, rhythm, and volume.

Work Schedules

Rehearsals and recording sessions are commonly held during business hours, but performances take place most often on nights and weekends. Because music writing is done primarily independently, composers may be able to set their own schedules.

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-3

Music Directors, Pay

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-5

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Music Directors and Composers

EN ESPAÑOL PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | Similar Occupations | More Info

Pay

About this section

The median annual wage for music directors and composers was $50,590 in May 2017. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than $21,010, and the highest 10 percent earned more than $109,300.

In May 2017, the median annual wages for music directors and composers in the top industries in which they worked were as follows:

Elementary and secondary schools; state, local, and private	$54,690
Performing arts companies	53,870
Religious, grantmaking, civic, professional, and similar organizations	40,560

Rehearsals and recording sessions are commonly held during business hours, but performances take place most often on nights and weekends. Because music writing is done primarily independently, composers may be able to set their own schedules.

Music Directors and Composers

Median annual wages, May 2017

Music directors and composers $50,590

Entertainers and performers, sports and related workers $42,010

Total, all occupations $37,690

Note: All Occupations includes all occupations in the U.S. Economy.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics

<- How to Become One

Job Outlook ->

SUGGESTED CITATION:

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Music Directors and Composers, on the Internet at https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm (visited *February 18, 2019*).

Last Modified Date: Monday, July 2, 2018

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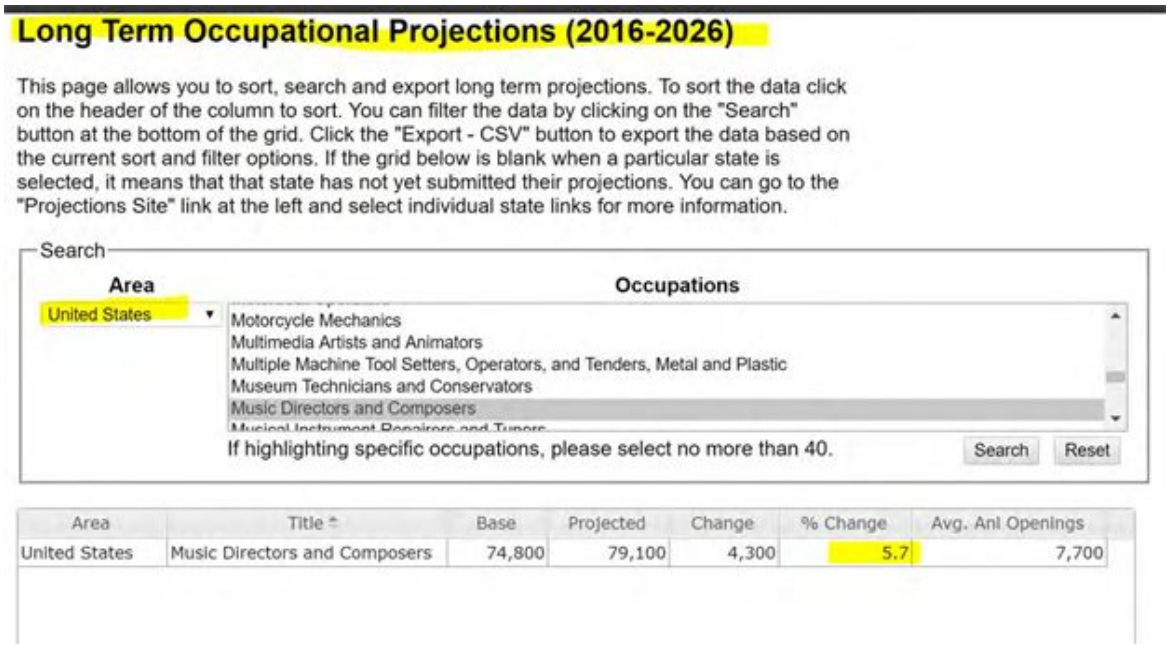
https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-5

Music Directors, Projections Central, Excel



Long Term Occupational Projections (2016-2026)

This page allows you to sort, search and export long term projections. To sort the data click on the header of the column to sort. You can filter the data by clicking on the "Search" button at the bottom of the grid. Click the "Export - CSV" button to export the data based on the current sort and filter options. If the grid below is blank when a particular state is selected, it means that that state has not yet submitted their projections. You can go to the "Projections Site" link at the left and select individual state links for more information.

Search

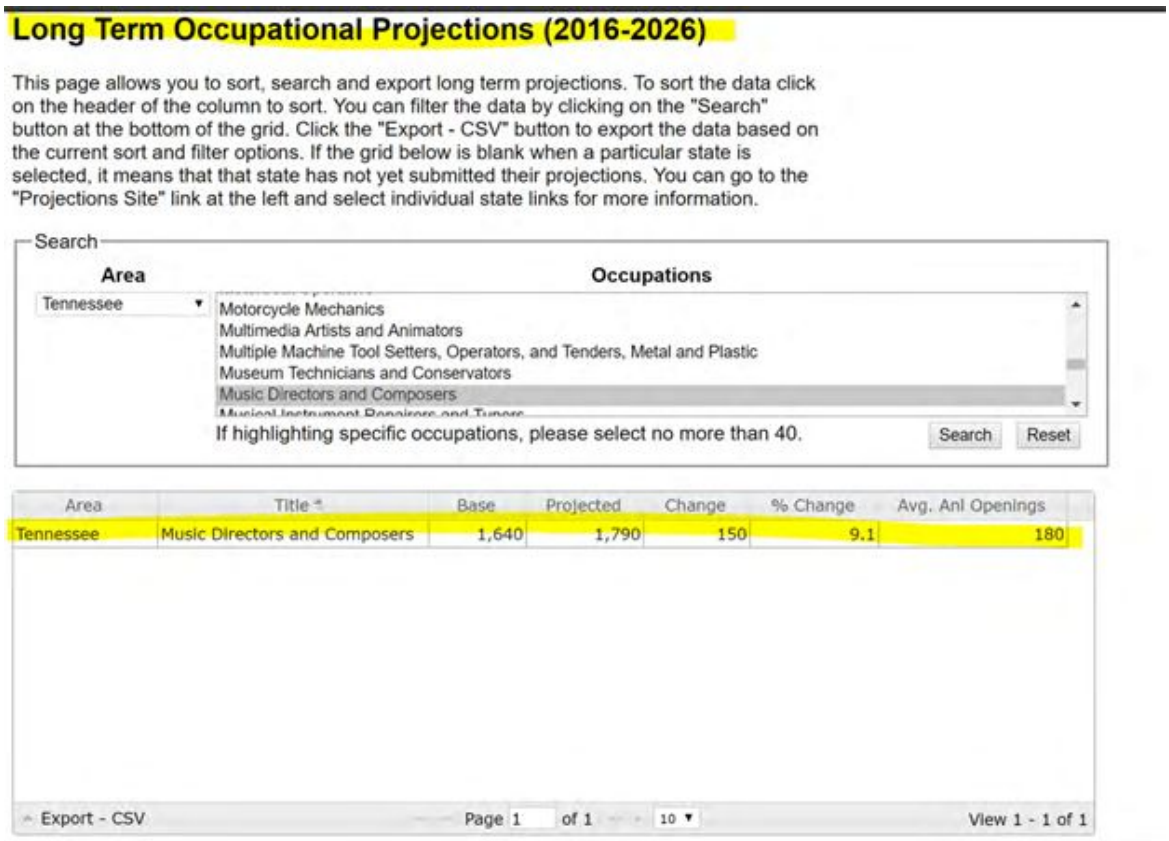
Area: United States

Occupations:
Motorcycle Mechanics
Multimedia Artists and Animators
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
Museum Technicians and Conservators
Music Directors and Composers

If highlighting specific occupations, please select no more than 40. Search Reset

Area	Title	Base	Projected	Change	% Change	Avg. Anl Openings
United States	Music Directors and Composers	74,800	79,100	4,300	5.7	7,700

http://www.projectionscentral.com/Projections/LongTerm



Long Term Occupational Projections (2016-2026)

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Search

Area: Tennessee

Occupations:
Motorcycle Mechanics
Multimedia Artists and Animators
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
Museum Technicians and Conservators
Music Directors and Composers

If highlighting specific occupations, please select no more than 40. Search Reset

Area	Title	Base	Projected	Change	% Change	Avg. Anl Openings
Tennessee	Music Directors and Composers	1,640	1,790	150	9.1	180

Export - CSV Page 1 of 1 10 View 1 - 1 of 1

http://www.projectionscentral.com/Projections/LongTerm

Short Term Occupational Projections (2018-2020)

This page allows you to sort, search and export short term projections. To sort the data click on the header of the column to sort. You can filter the data by clicking on the "Search" button at the bottom of the grid. Click the "Export - CSV" button to export the data based on the current sort and filter options. If the grid below is blank when a particular state is selected, it means that that state has not yet submitted their projections. You can go to the "Projections Site" link at the left and select individual state links for more information.

Search

Area	Occupations
Tennessee	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic Museum Technicians and Conservators Music Directors and Composers Musical Instrument Repairers and Tuners Musicians and Singers Natural Sciences Managers

If highlighting specific occupations, please select no more than 40. Search Reset

Area	Title	Base	Projected	Change	% Change	Avg. Anl Openings
Tennessee	Music Directors and Compose	1,630	1,670	40	2.5	180

Export - CSV Page 1 of 1 10 View 1 - 1 of 1

Download About the numbers

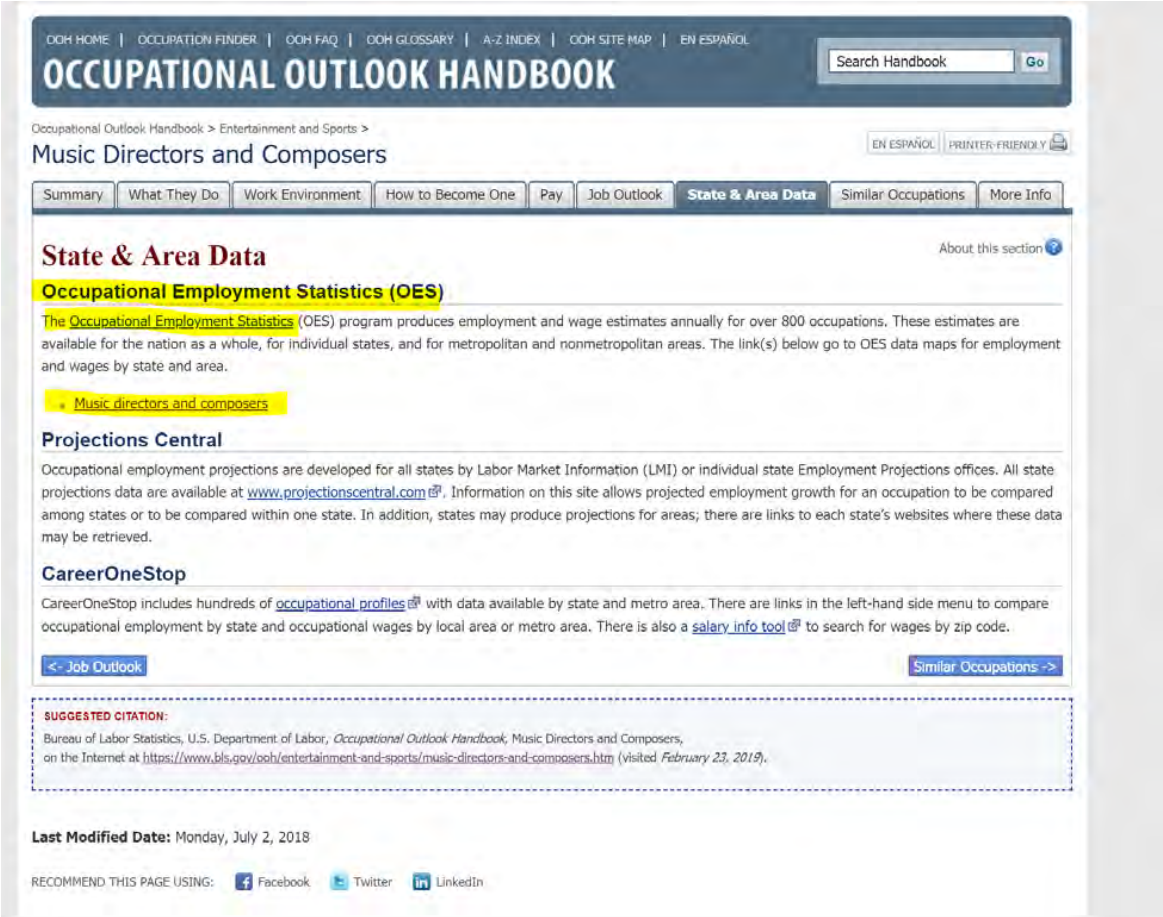
http://www.projectionscentral.com/Projections/ShortTerm

Music Directors, Projections Central, Employment by Industry, Excel

Employment by industry, occupation, and percent distribution, 2016 and projected 2026
27-2041 Music directors and composers
(Employment in thousands)
Industries with fewer than 50 jobs, confidential data, or poor quality data are not displayed

Industry			2016			2026		
Sort Order	Code	Title	Employment	Percent of industry	Percent of occupation	Employment	Percent of industry	Percent of occupation
1	TE1000	Total employment	74.8	0.0	100.0	79.1	0.0	100.0
2	TE1100	Self-employed workers	19.3	0.2	25.8	20.4	0.2	25.8
3	TE1200	Total wage and salary employment	55.6	0.0	74.2	58.7	0.0	74.2
4	510000	Information	0.7	0.0	0.9	0.7	0.0	0.9
5	512000	Motion picture and sound recording industries	0.5	0.1	0.6	0.5	0.1	0.6
6	512100	Motion picture and video industries	0.3	0.1	0.4	0.4	0.1	0.4
7	512200	Sound recording industries	0.2	1.1	0.2	0.2	1.1	0.2
8	515000	Broadcasting (except Internet)	0.2	0.1	0.2	0.1	0.1	0.2
9	515100	Radio and television broadcasting	0.2	0.1	0.2	0.1	0.1	0.2
10	515110	Radio broadcasting	0.1	0.1	0.2	0.1	0.1	0.1
11	610000	Educational services; state, local, and private	9.9	0.1	13.2	10.1	0.1	12.7
12	611000	Educational services; state, local, and private	9.9	0.1	13.2	10.1	0.1	12.7
13	611100	Elementary and secondary schools; state, local, and private	8.7	0.1	11.7	8.7	0.1	11.0
14	611105	Elementary and secondary schools; private	2.9	0.3	3.9	3.0	0.3	3.8
15	611103	Elementary and secondary schools; local	5.8	0.1	7.8	5.7	0.1	7.2
16	6112-3	Junior colleges, colleges, universities, and professional schools; state, local, and private	0.8	0.0	1.0	0.9	0.0	1.1
17	611200	Junior colleges; state, local, and private	0.1	0.0	0.2	0.1	0.0	0.2
18	611203	Junior colleges; local	0.1	0.0	0.2	0.1	0.0	0.2
19	611300	Colleges, universities, and professional schools; state, local, and private	0.6	0.0	0.9	0.7	0.0	0.9
20	611305	Colleges, universities, and professional schools; private	0.5	0.0	0.7	0.6	0.0	0.8
21	611302	Colleges, universities, and professional schools; state	0.1	0.0	0.2	0.1	0.0	0.2
22	6114-7	Other educational services; state, local, and private	0.4	0.1	0.5	0.5	0.1	0.7
23	611600	Other schools and instruction; state, local, and private	0.4	0.1	0.5	0.5	0.1	0.6
25	620000	Healthcare and social assistance	0.1	0.0	0.1	0.1	0.0	0.1	16.0
26	710000	Arts, entertainment, and recreation	3.1	0.1	4.2	3.2	0.1	4.0	1.4
27	711000	Performing arts, spectator sports, and related industries	3.1	0.7	4.2	3.2	0.7	4.0	1.3
28	711100	Performing arts companies	2.6	2.2	3.5	2.6	2.2	3.3	-0.5
29	711110	Theater companies and dinner theaters	0.3	0.5	0.4	0.3	0.5	0.4	5.1
30	7113-4	Promoters of events, and agents and managers	0.1	0.1	0.2	0.1	0.1	0.2	17.7
31	711300	Promoters of performing arts, sports, and similar events	0.1	0.1	0.2	0.1	0.1	0.2	17.7
32	711500	Independent artists, writers, and performers	0.4	0.8	0.5	0.4	0.8	0.6	7.9
33	810000	Other services (except public administration)	41.7	0.6	55.7	44.6	0.7	56.3	6.9
34	813000	Religious, grantmaking, civic, professional, and similar organizations	41.7	1.4	55.7	44.6	1.5	56.3	6.9
35	8134-9	Civic, social, professional, and similar organizations	0.1	0.0	0.1	0.1	0.0	0.1	-0.2
36	813400	Civic and social organizations	0.1	0.0	0.1	0.1	0.0	0.1	-0.2

Music Directors, State and Area



https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-7

Music Directors, Metro

Top paying metropolitan areas for this occupation:

Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Minneapolis-St. Paul-Bloomington, MN-WI	150	0.08	0.70	$52.52	$109,250
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	1,590	0.24	2.20	$39.39	$81,920
Seattle-Bellevue-Everett, WA Metropolitan Division	100	0.06	0.54	$38.26	$79,590
Cleveland-Elyria, OH	190	0.19	1.73	$36.32	$75,550
Baltimore-Columbia-Towson, MD	50	0.03	0.31	$36.08	$75,050
Columbus, OH	100	0.10	0.90	$34.03	$70,780
Boston-Cambridge-Newton, MA NECTA Division	270	0.15	1.34	$33.96	$70,640
Atlanta-Sandy Springs-Roswell, GA	140	0.05	0.50	$33.80	$70,300
Indianapolis-Carmel-Anderson, IN	80	0.08	0.76	$32.75	$68,110
Oakland-Hayward-Berkeley, CA Metropolitan Division	220	0.19	1.76	$32.57	$67,740

Nonmetropolitan areas with the highest employment in this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Southwest New York nonmetropolitan area	120	0.69	6.36	$15.35	$31,940
North Northeastern Ohio non-metropolitan area (non-contiguous)	90	0.27	2.51	$26.81	$55,770
Capital/Northern New York nonmetropolitan area	80	0.53	4.89	(8)	(8)
Central New York nonmetropolitan area	80	0.60	5.54	$20.78	$43,220
North Texas Region of Texas nonmetropolitan area	50	0.18	1.67	$26.74	$55,610

Nonmetropolitan areas with the highest concentration of jobs and location quotients in this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Northwest Massachusetts nonmetropolitan area	30	1.16	10.73	$27.14	$56,440
Southwest New York nonmetropolitan area	120	0.69	6.36	$15.35	$31,940
Central New York nonmetropolitan area	80	0.60	5.54	$20.78	$43,220
Capital/Northern New York nonmetropolitan area	80	0.53	4.89	(8)	(8)
Southwest Kansas nonmetropolitan area	40	0.47	4.33	$25.20	$52,420

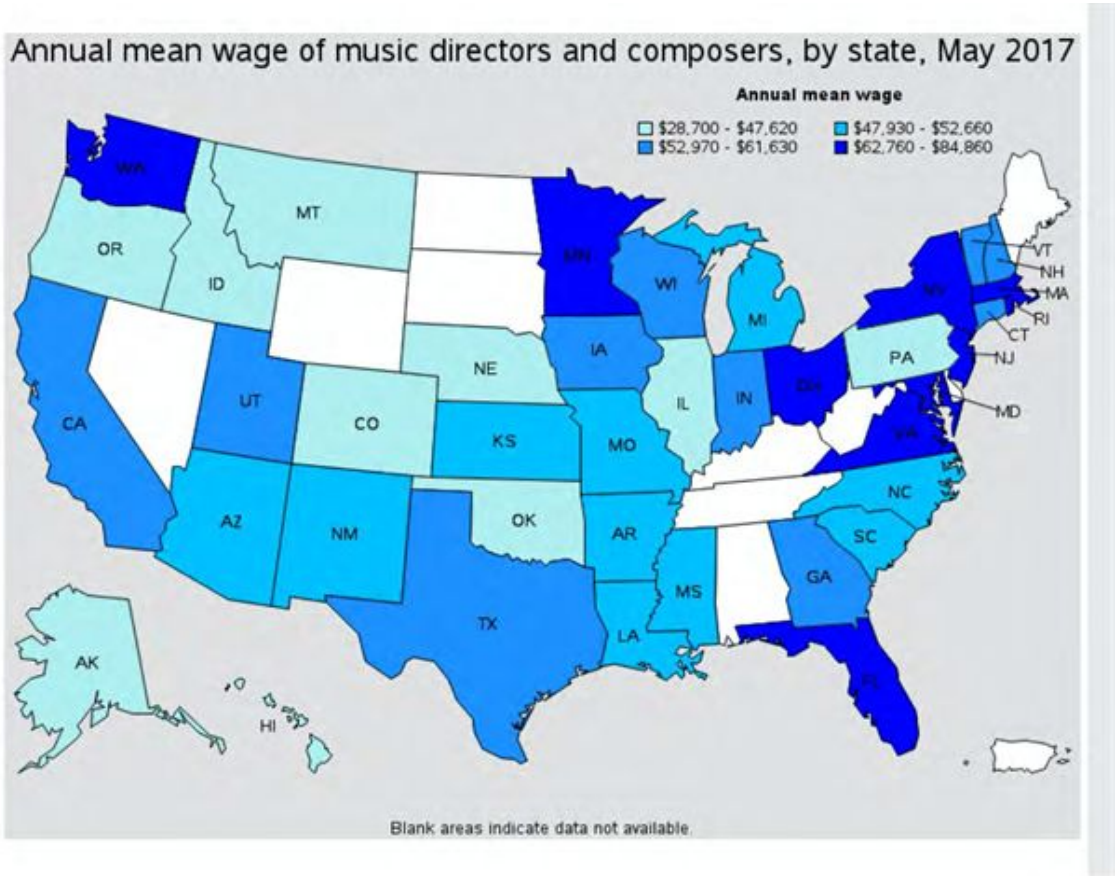
Top paying nonmetropolitan areas for this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Coastal Plains Region of Texas nonmetropolitan area	30	0.21	1.93	$27.92	$58,070
West Texas Region of Texas nonmetropolitan area	40	0.21	1.93	$27.62	$57,450
Big Thicket Region of Texas nonmetropolitan area	40	0.39	3.60	$27.33	$56,850
Northwest Massachusetts nonmetropolitan area	30	1.16	10.73	$27.14	$56,440
North Northeastern Ohio non-metropolitan area (non-contiguous)	90	0.27	2.51	$26.81	$55,770

About May 2017 National, State, Metropolitan, and Nonmetropolitan Area Occupational Employment and Wage Estimates

https://www.bls.gov/oes/current/oes272041.htm#st

Music Directors, Maps



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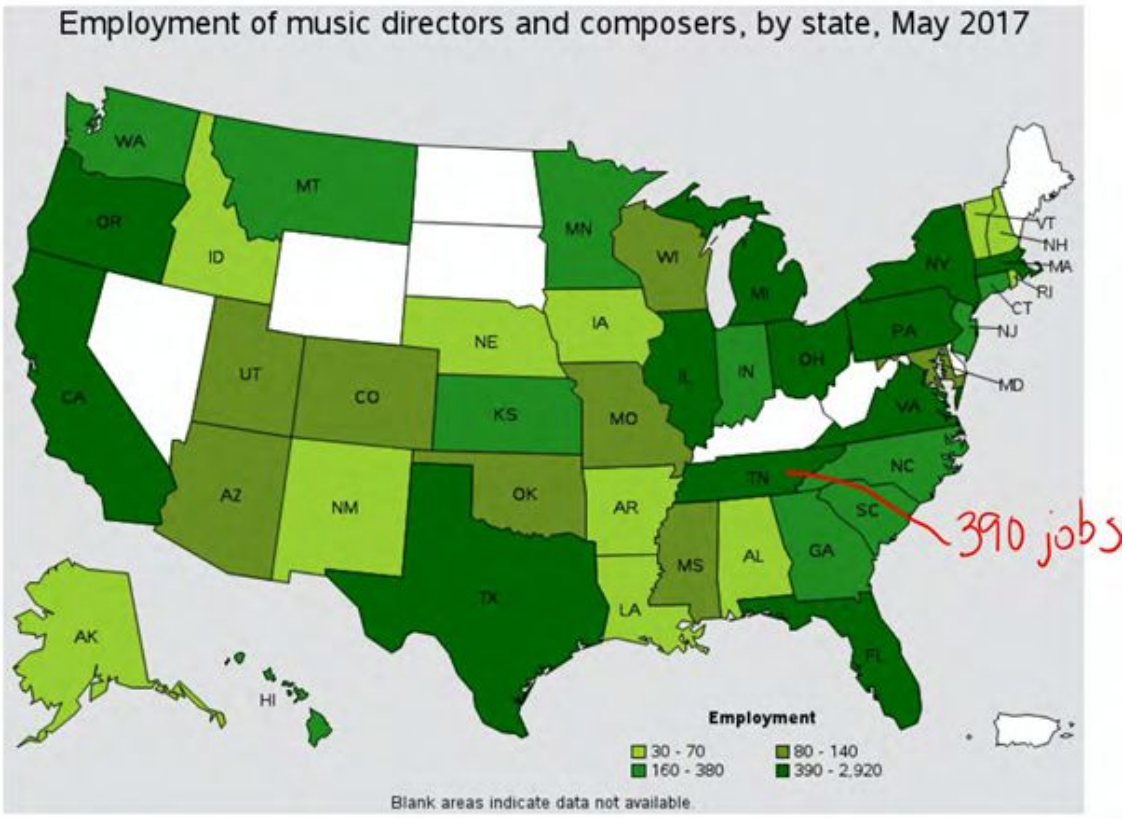

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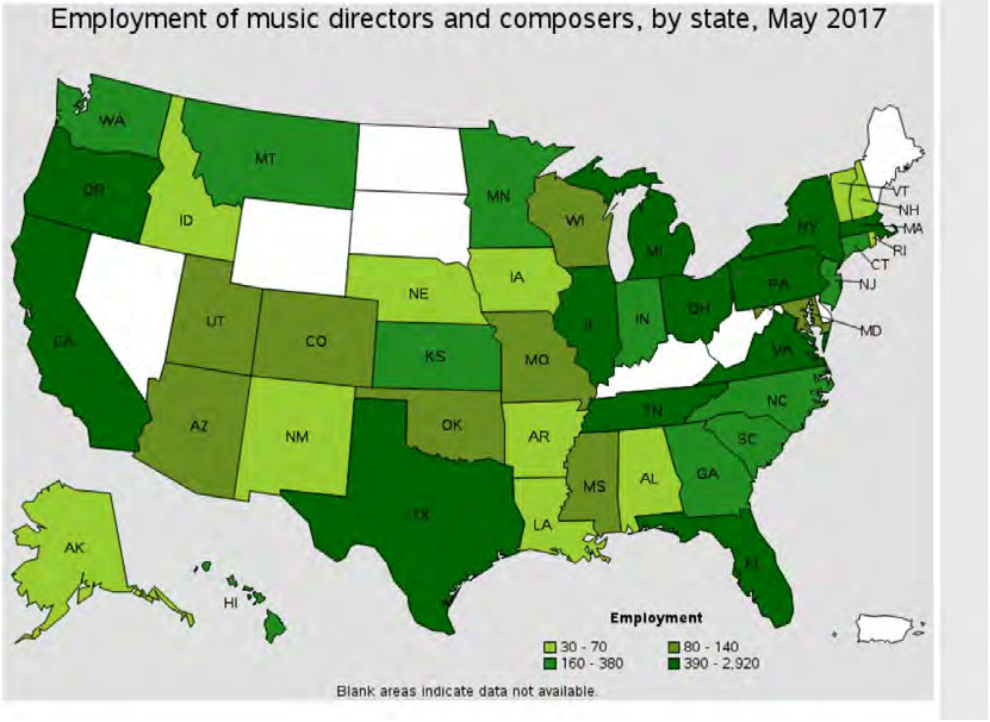
Employment of music directors and composers, by state, May 2017
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VA
NC
SC
GA
FL
PA
NY
MD
NJ
CT
RI
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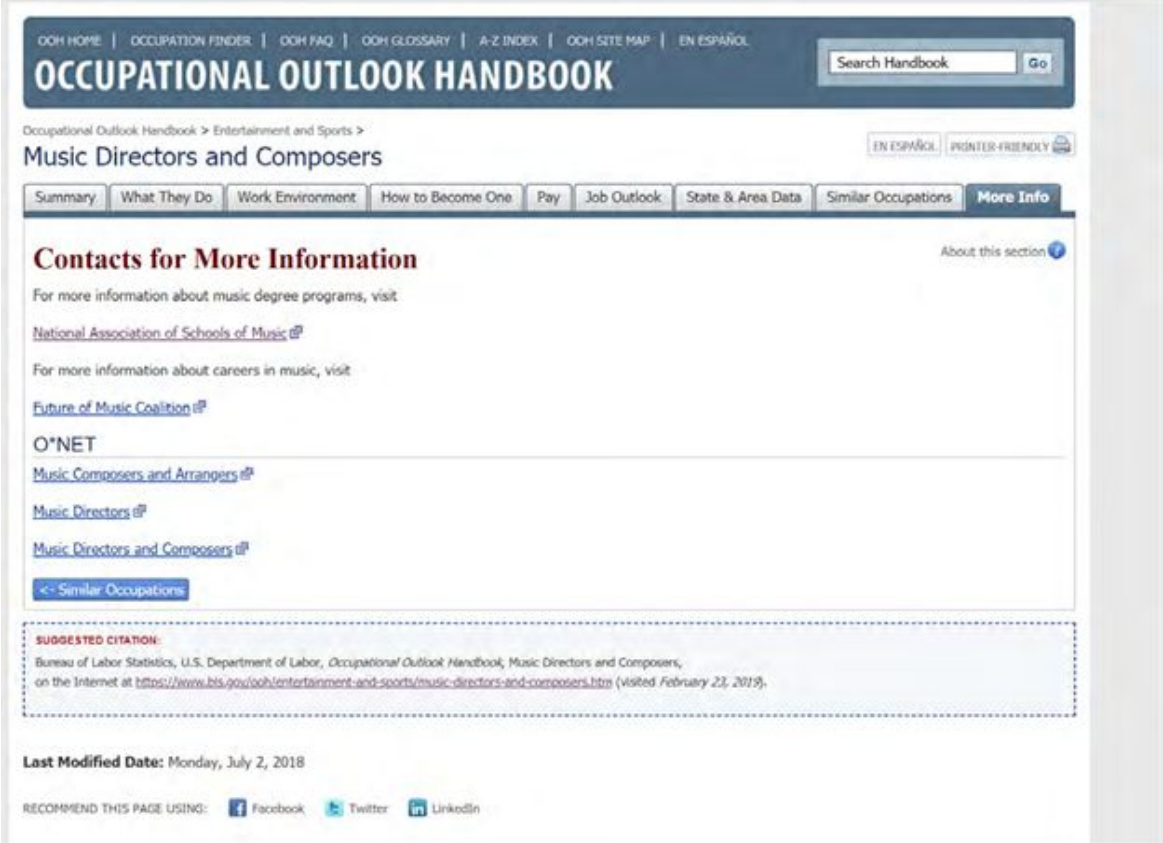
VT
NH
ME
AK
HI
Employment
30 - 70
80 - 140
160 - 380
390 - 2,920
Blank areas indicate data not available.

Music Directors, More information



https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-9

Music Directors, NASM

Music Directors, NASM
Editorial and Programming Assistant

https://nasm.arts-accredit.org/about/employment-opportunities/editorial-programming-assistant/

EDITORIAL AND PROGRAMMING ASSISTANT

January 21, 2019

The National Association of Schools of Music, a not-for-profit specialized accrediting association founded in 1924, headquartered in Reston, VA, is seeking a full-time (9-5, M-F) staff member. This employee will hold consistent responsibilities and duties with and among all organizations and operating entities managed by the National Office for Arts Accreditation.

The Association employs fourteen staff members in a non-smoking, studious, quiet, and busy office. Attire is business professional. The National Office is within walking distance of the Metro.

Daily responsibilities include, but are not limited to:

- Coordinate and prepare for Annual and other meeting program planning meetings including conducting research, preparing materials, and scheduling planning meeting activities.
- Create Annual and other meeting program text as informed by notes, feedback, discussion, and assignment.
- Invite, confirm, and communicate with Annual and other meeting personnel.
- Organize, manage, monitor, and maintain as current Annual and other meeting program content and personnel.
- Attend to and complete tasks associated with meeting close out.
- Write, create, edit, and proofread text and documents as assigned and in support of Association operations.
- Assist the Executive Director as assigned with daily responsibilities associated with the work of the National Office for Arts Accreditation and its constituent organizations.

Necessary Qualifications:

An undergraduate degree is required; a graduate degree is preferred. Study in an arts discipline and writing expertise are required. At least 3 years of post-collegiate professional experience is required.

Music Directors, NASM
Accreditation Assistant

https://nasm.arts-accredit.org/about/employment-opportunities/accreditation-assistant-2/

Back to Employment Opportunities

ACCREDITATION ASSISTANT (REPORTS)

- Purposes
- Philosophy
- History
- Relationships with Other Organizations
- Current Notices
- Calendar
- Officers, Commissioners, and Committees
- NASM Staff
- Employment Opportunities

January 21, 2019

The National Association of Schools of Music, a not-for-profit specialized accrediting association founded in 1924, headquartered in Reston, VA, is seeking a full-time (9-5, M-F) staff member. This employee will hold consistent responsibilities and duties with and among all organizations and operating entities managed by the National Office for Arts Accreditation.

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Daily responsibilities include, but are not limited to:

- Manage and maintain the evaluative and consultative report submission and dissemination process.
- Manage and maintain on a daily basis the organization, processing, and filing of evaluative and consultative reports.
- Prepare and format documents and correspondence; proofread and edit various texts.
- Read, review, study, and consider accreditation materials.
- Provide assistance to individuals seeking information about Association work.
- Assist in the work of the accreditation Commissions.

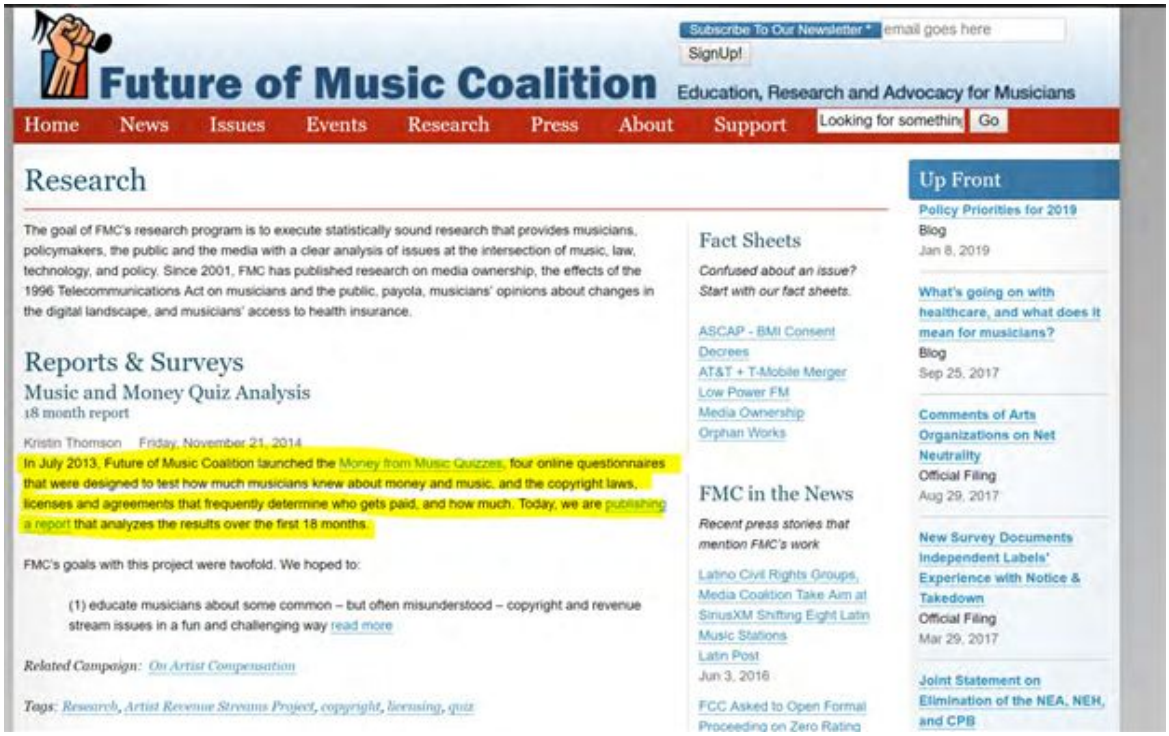
Skills required:

- Demonstrated ability to understand and work with and in complex systems
- Exceptional organizational abilities
- Advanced formatting, editing, and proofreading skills
- Outstanding written and verbal communication skills
- Excellent customer service skills; patient and instructional manner
- Proven ability to handle multiple priorities and meet deadlines
- Meticulous attention to detail
- Ability to work successfully both independently and in teams
- Advanced knowledge and demonstrated experience with Microsoft Office, FileMaker, Adobe Acrobat, and Mac operating systems

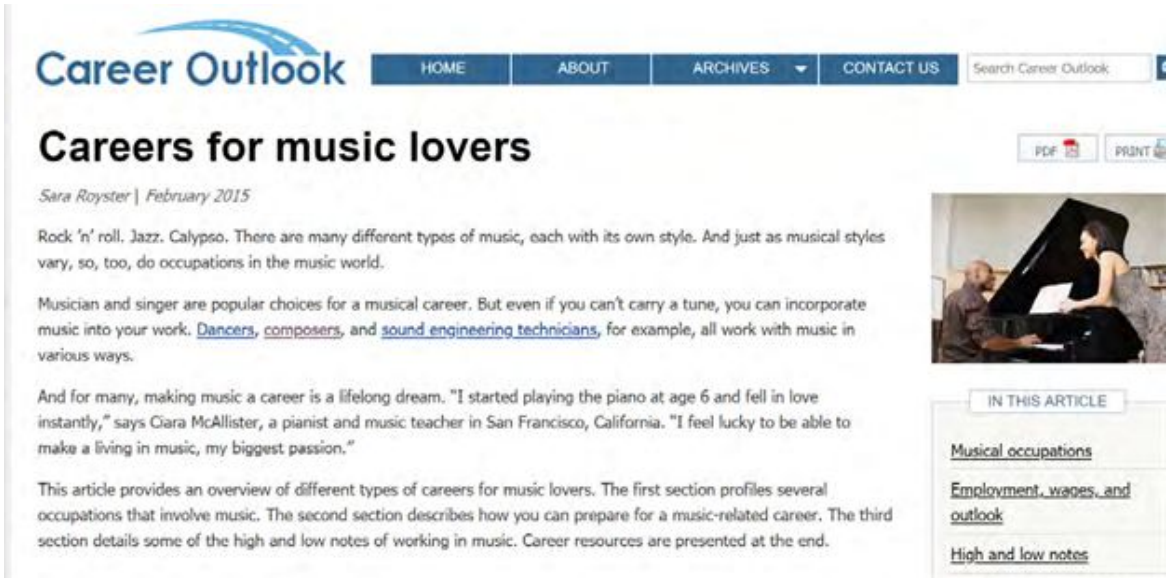
Necessary Qualifications:

An undergraduate degree in fine or performing arts is required. A graduate degree in fine or performing arts is preferred. At least 3 years of post-collegiate professional experience is required.

Music Directors, Future of Music Coalition
https://futureofmusic.org/research



Music Directors, Career Outlook



https://www.bls.gov/careeroutlook/2015/article/careers-for-music-lovers.htm

Employment, wages, and outlook

As a whole, music occupations do not employ many workers, according to data from the Bureau of Labor Statistics (BLS) Employment Projections (EP) program. In 2012, for example, EP data show that there were about 10,200 choreographers, about 28 percent of whom were self-employed.

BLS data from the Occupational Employment Statistics (OES) survey show that wages for music workers are generally higher than the median annual wage for all workers, which was $35,080 in May 2013. But OES data exclude the self-employed, and many music workers do not pursue music as their primary source of income.

Employment

Measuring the employment of music workers can be difficult for several reasons. Employment numbers for music-related occupations are often small. Furthermore, music is a secondary career for some workers, who may need or prefer to have another job to make a living.

And job duties in these occupations do not always relate to music. For example, some broadcast and sound engineering technicians may work on television programs, not musical performances.

Because of these challenges, it's sometimes difficult to identify music workers in BLS data. For example, BLS counts music teachers in several occupations. Music teachers in elementary, middle, or high schools are counted with other types of teachers in those schools. Private music teachers are counted with other types of self-enrichment education teachers. Only in colleges and universities—where they are counted with postsecondary arts, drama, and music teachers—is the occupation more distinct.

Workers in many music-related occupations are self-employed. EP data show that about 36 percent of musicians and singers, 29 percent of dancers, and 23 percent of music directors and composers were self-employed in 2012.

Wages

As with employment data, wage data for music workers may not always accurately reflect working conditions or total pay in these occupations. For example, OES data exclude the many self-employed who are working in music. But understanding wage data for these occupations can help to clarify how music workers earn money.

Workers in some music occupations—including musicians and singers—are usually paid by the hour and do not work year round, full-time. As a result, BLS estimates their median hourly wage, not the median annual wage. For example, musicians may be hired to work on the score of a feature film for a specific number of hours. These workers earn an hourly wage only for the duration of the project, so an annual estimate would overstate their overall wages.

In other occupations, workers may have a source of income that is not counted as part of their wages. For example, in addition to drawing a salary, music directors may also earn fees for guest engagements at other music companies.

Outlook

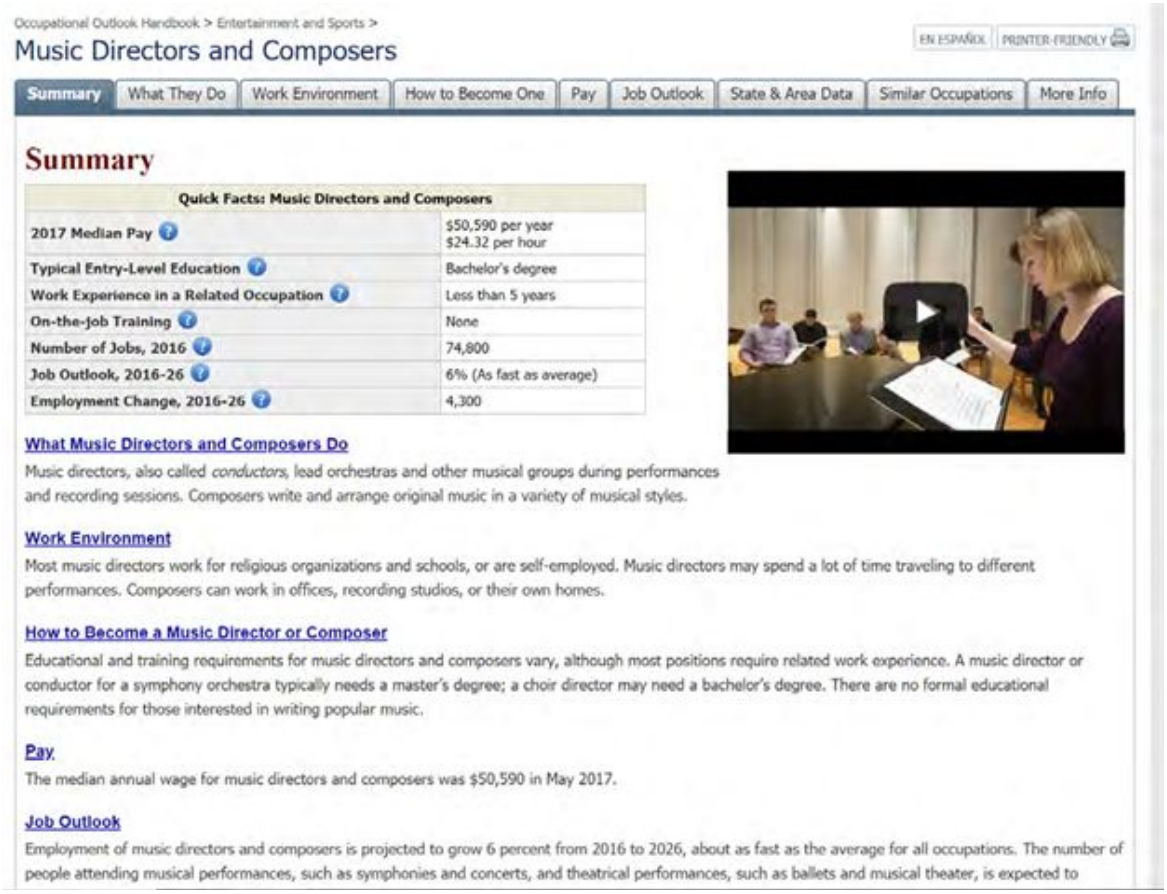
The job outlook that BLS projects for music occupations varies. For example, employment growth is projected to range from as fast as 24 percent for choreographers to as slow as less than 1 percent for sound engineering technicians. Employment growth in music occupations is affected by factors such as technology and the availability of funding for the arts. However, job openings are expected in all occupations because of the need to replace workers who leave or retire.

The variation in projected employment growth of music occupations between 2012 and 2022 has several different causes. For example, employment of music directors and composers is expected to grow more slowly than average because of limited funding for musical groups. In contrast, employment of choreographers is expected to grow much faster than average, as more people interested in pop culture enroll in dance schools.

The job outlook for teachers is projected to vary during the 2012–22 decade. But employment projections for most teaching occupations do not specify subject area, and music programs may be more susceptible than others to funding cuts. At the college level, music teachers are identified among postsecondary arts, drama, and music teachers, an occupation that is projected to have faster-than-average employment growth because of rising enrollment in colleges and universities.

https://www.bls.gov/careeroutlook/2015/article/careers-for-music-lovers.htm

References for OOH Table



Occupational Outlook Handbook > Entertainment and Sports >

Music Directors and Composers

EN ESPAÑOL | PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | Similar Occupations | More Info

Summary

Quick Facts: Music Directors and Composers	
2017 Median Pay	$50,590 per year $24.32 per hour
Typical Entry-Level Education	Bachelor's degree
Work Experience in a Related Occupation	Less than 5 years
On-the-Job Training	None
Number of Jobs, 2016	74,800
Job Outlook, 2016-26	6% (As fast as average)
Employment Change, 2016-26	4,300

What Music Directors and Composers Do

Music directors, also called *conductors*, lead orchestras and other musical groups during performances and recording sessions. Composers write and arrange original music in a variety of musical styles.

Work Environment

Most music directors work for religious organizations and schools, or are self-employed. Music directors may spend a lot of time traveling to different performances. Composers can work in offices, recording studios, or their own homes.

How to Become a Music Director or Composer

Educational and training requirements for music directors and composers vary, although most positions require related work experience. A music director or conductor for a symphony orchestra typically needs a master's degree; a choir director may need a bachelor's degree. There are no formal educational requirements for those interested in writing popular music.

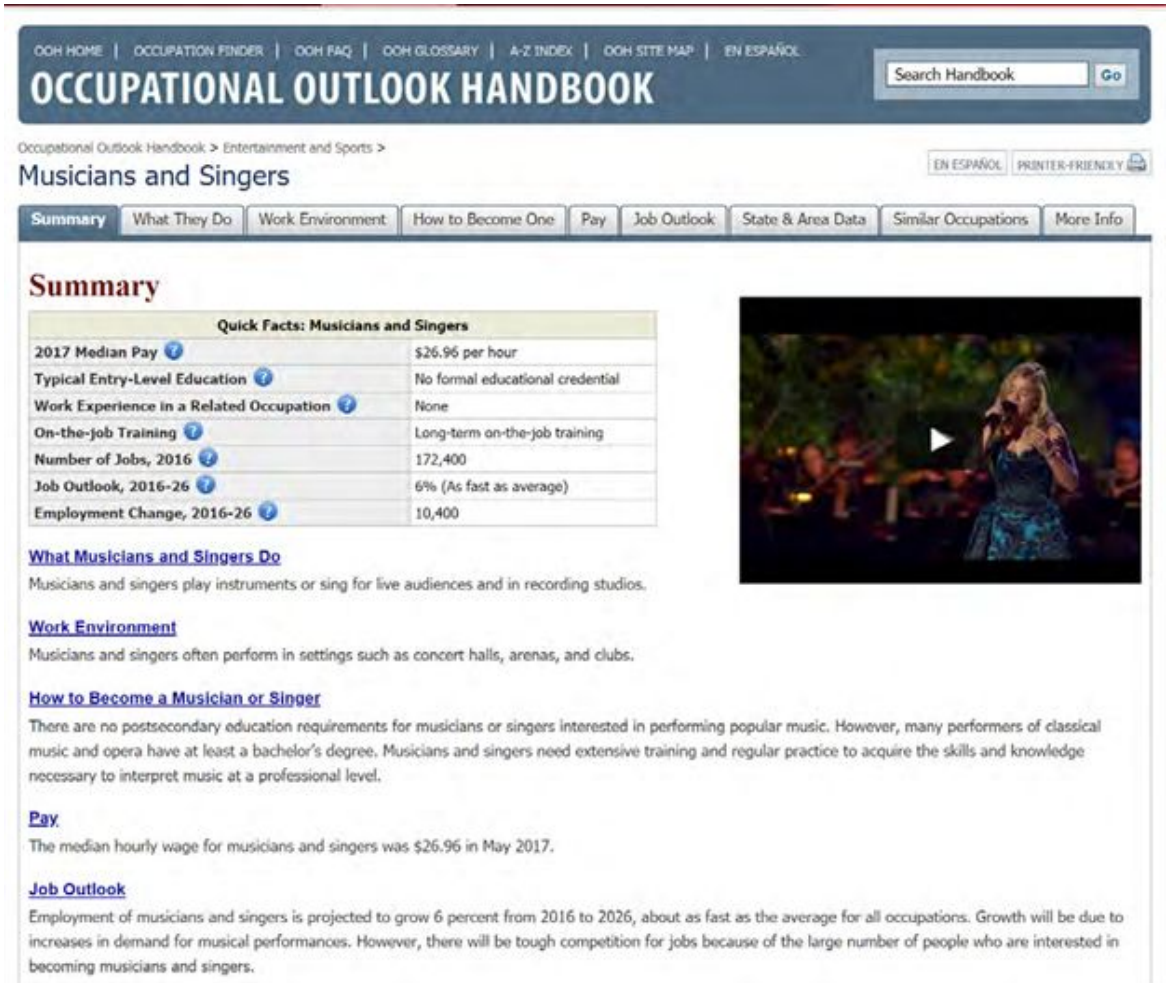
Pay

The median annual wage for music directors and composers was $50,590 in May 2017.

Job Outlook

Employment of music directors and composers is projected to grow 6 percent from 2016 to 2026, about as fast as the average for all occupations. The number of people attending musical performances, such as symphonies and concerts, and theatrical performances, such as ballets and musical theater, is expected to

https://www.bls.gov/ooh/entertainment-and-sports/music-directors-and-composers.htm#tab-1



OOH HOME | OCCUPATION FINDER | OOH FAQ | OOH GLOSSARY | A-Z INDEX | OOH SITE MAP | EN ESPAÑOL

OCCUPATIONAL OUTLOOK HANDBOOK

Search Handbook Go

Occupational Outlook Handbook > Entertainment and Sports >

Musicians and Singers

EN ESPAÑOL | PRINTER-FRIENDLY

Summary | What They Do | Work Environment | How to Become One | Pay | Job Outlook | State & Area Data | Similar Occupations | More Info

Summary

Quick Facts: Musicians and Singers	
2017 Median Pay	$26.96 per hour
Typical Entry-Level Education	No formal educational credential
Work Experience in a Related Occupation	None
On-the-Job Training	Long-term on-the-job training
Number of Jobs, 2016	172,400
Job Outlook, 2016-26	6% (As fast as average)
Employment Change, 2016-26	10,400

What Musicians and Singers Do

Musicians and singers play instruments or sing for live audiences and in recording studios.

Work Environment

Musicians and singers often perform in settings such as concert halls, arenas, and clubs.

How to Become a Musician or Singer

There are no postsecondary education requirements for musicians or singers interested in performing popular music. However, many performers of classical music and opera have at least a bachelor's degree. Musicians and singers need extensive training and regular practice to acquire the skills and knowledge necessary to interpret music at a professional level.

Pay

The median hourly wage for musicians and singers was $26.96 in May 2017.

Job Outlook

Employment of musicians and singers is projected to grow 6 percent from 2016 to 2026, about as fast as the average for all occupations. Growth will be due to increases in demand for musical performances. However, there will be tough competition for jobs because of the large number of people who are interested in becoming musicians and singers.

https://www.bls.gov/ooh/entertainment-and-sports/musicians-and-singers.htm

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Appendix 2

Additional Information in Response to THEC's Evaluation

Local and Regional Need

According to national statistics published by the Bureau of Labor Statistics (bls.gov), 44.7% of music majors are employed as musicians or teachers and 30.7% are employed in general business positions.[1] In Tennessee, only 34.8% of music majors find employment as musicians or teachers, while 37.9% end up in business.[1] This 17% swing from the national average, likely means that a higher percentage of TN music majors will end up in business related jobs, rather than music and education positions. This is further justification for the proposed degree, which has a broader curriculum and academic scope.

Further, when comparing the job force of Putnam County (Tennessee Tech University), to the surrounding region, there are fewer jobs available per capita in the field of music and education. In Putnam County, there are approximately 34,000 jobs.[1] Of these 34,000 jobs, 8.4% are in education and music (2,848 positions).[1] When compared to the surrounding region, this is a significantly lower percentage. In Nashville, 10.3% of the 360,000 jobs are in education and music (36,994 jobs)[1] and in Knoxville, 10% of the 90,000 jobs are in education and music (9,039 jobs).[1]

Since there are fewer music jobs available per capita in Putnam County, compared to the surrounding region (Nashville and Knoxville), and Tennessee music majors are statistically more likely to end up in a business-related job than in music/education positions (17% swing from the national average), there is a strong local and regional need for the proposed degree due to its interdisciplinary focus and broader academic curriculum. Music students who graduate with the proposed degree will be better equipped to seek employment in business related positions and music positions that don't follow the traditional models of music performance/education.

Employer Need / Demand

The curriculum of the proposed degree will provide students with the skills needed to seek employment as music directors and composers. To direct any musical ensemble, conducting skills are required. For this reason, students are required to take two semesters of Conducting (3 credits). Musical directors must also be able to teach basic music theory and hear errors in rehearsal. Therefore, the proposed degree requires 4 semesters of music theory (10 credits) and 4 semesters of Aural Techniques (4 credits). If the student plans to be a choral director, they must be to accompany their choirs on the piano. For this reason, the proposed degree requires 2-4 semesters of piano.

If a student is particularly interested in directing k-12 ensembles, all music education courses can be taken as electives. These courses include Marching Band Techniques, Materials and Methods in Music (K-5), Materials and Methods in Music (6-12), String Pedagogy and Literature, and Choral Pedagogy and Literature.

The curriculum of the proposed degree will also prepare students to become successful composers. Composers must be strong at written and aural music theory and have a strong understanding of various musical styles, genres, and composers. Therefore, the proposed degree requires 4 semesters of music theory (10 credits), 4 semesters of Aural Techniques (4 credits), and 2 semesters of Music History (6 credits). Composers must also be proficient with music notation software and basic recording

[1] Overview of BLS Statistics by Occupation. *Bureau of Labor Statistics*. Retrieved March 3, 2021, from https://www.bls.gov/bls/occupation.htm

techniques so they can notate and document their compositions. For this reason, the proposed degree includes two music technology courses, Computer Applications in Music and Recording Techniques.

If a student is particularly interested in composition, all composition courses may be taken as electives (Instrumentation, Jazz Arranging, Repertoire and Literature, Form and Analysis, Contemporary Music, Music Business and Entrepreneurship, Improvisation I/II, Private Composition Lessons.

Future Sustainable Need / Demand

The proposed degree was designed to provide a core musical experience, while encouraging study in expanded areas. When compared to the other two existing BS Music degrees in Tennessee (APSU and TSU), the proposed degree has the highest elective total in the state (34 credits). Further, this degree incorporates these electives starting in the first semester, allowing the student to create a deep connection with their secondary area(s). Lastly, replacing the senior recital with a senior project, allows the student to pursue a capstone project in their secondary area, or a collaboration between both disciplines.

https://www.bls.gov/bls/occupation.htm

U.S. BUREAU OF LABOR STATISTICS

Overview of BLS Statistics by Occupation

Workers are classified into occupational categories based upon the work they perform and their skills, education, training, and credentials. Two examples of occupations are accountants and auditors and janitors and cleaners. Some occupations are found in just one or two industries, but many occupations are found in a large number of industries.

Most BLS occupation data use the Standard Occupational Classification (SOC) System, but some data are still based on an older occupational classification system. (See the SOC Implementation Schedule for more information.)

BLS publishes a large amount of information by occupation, including career information, employment levels and projections, and data on earnings and working conditions.

Careers

Occupational Outlook Handbook
This publication describes the nature of the work, working conditions, the training and education needed, earnings, and expected job prospects for a wide range of occupations.

Career Outlook
Career Outlook articles provide data and information on a variety of topics—including occupations and industries, pay and benefits, and more. These articles are helpful for students, career counselors, jobseekers, and others planning careers.

Number of People Employed in Specific Occupations

Occupational Employment and Wage Statistics
BLS conducts an annual mail survey of establishments that provides data on employment and wages by occupation and industry for over 800 occupations and for about 400 industries throughout the Nation, and similar data for all states and selected metropolitan areas.

Current Population Survey
The monthly survey of U.S. households provides data on employment and earnings by occupation, along with age, gender, race, educational attainment, and other characteristics of workers in each occupation.

Wages by Area and Occupation

Occupational Employment and Wage Statistics and National Compensation Survey

Wage data are available by occupation for the nation, regions, states, and many metropolitan areas. Wage data by area and occupation are from the National Compensation Survey, Occupational Employment and Wage Statistics Survey, or the Current Population Survey. See Wages by Area and Occupation to determine which information suits your needs.

Modeled Wage Estimates

This program provides annual estimates of average hourly wages for occupations by selected job characteristics and geographical locations. The job characteristics include bargaining status (union and nonunion), part- and full-time work status, incentive- and time-based pay, and the level of difficulty and complexity of work.

More information: Wages by Area and Occupation. Additional Data on Occupations

Injuries, Illnesses, and Fatalities

This program provides data on nonfatal illnesses and injuries on the job and on worker fatalities by occupation and other worker characteristics.

Occupational Requirements Survey

This survey provides information about the physical demands, environmental conditions, mental and cognitive demands, and vocational preparation requirements of occupations.

Employment Projections

This program provides projections of the labor market 10 years into the future and other career information.

Minimum Wage Workers

BLS data on workers with hourly earnings at or below the prevailing federal minimum wage are described on the Overview of BLS Data on Minimum Wage Workers page.

Last Modified Date: September 1, 2020

Appendix 3

Letters of Support
&
Current Job Postings

TENNESSEE PERFORMING ARTS CENTER

August 1, 2019

Dr. Wendy Mullen, Director
Tennessee Tech University
School of Music

A Bachelor of Science in Music would be a fantastic addition to Tennessee Tech University's (TTU) School of Music degree offerings. As a former student at TTU, I would have personally loved the opportunity to pursue a music degree that offered focuses in Business, Marketing, or Arts Management. Because my options were either Performance or Education, I went with a completely different path for my undergraduate degree.

As a professional working on the administrative side of the performing arts, I often see college graduates with music degrees, but very few of them have the administrative or business knowledge or skills to succeed in a non-performance position. I recently hired a candidate for a Development Coordinator position. She had earned a Bachelor of Arts in Performance and then later when back to graduate school because she realized she did not have the skills necessary to obtain the positions she wanted. When looking through resumes, I certainly preferred to see those with music and arts backgrounds to those with just business backgrounds. However, if a candidate had education or experience with both, they were immediately moved to the top of the pile.

I also recently attended a "State of the Arts" Candidate Forum and Reception hosted by Nashville Arts Coalition and Candidates for Metropolitan Nashville Council. The panel featured leaders from both large and small arts organizations in the Nashville area. All of panelists agreed, and made a point to note, that they would prefer to hire a candidate with an education background in the arts and those who also had skills in Arts Management and other business-related focuses would be assets to their organizations.

I would absolutely consider an applicant with a Bachelor of Science in Music to be a stronger candidate than those with other backgrounds and I think this new degree program would be a great option for students and potential employers.

Susan E. Luna, MPA, CFRE
Senior Director of Individual Giving
Tennessee Performing Arts Center

TPAC.org
615-782-4040

505 Deaderick Street, 3rd Floor
Nashville, TN 37243

MAILING: PO Box 190660
Nashville, TN 37219

WMArocks.com
615-782-4030

Dear Wendy Mullen,

Hello! My name is Kyle Tarwater, and I am a former student of Tennessee Tech University. I'm writing to you in reference to the new proposed degree path, the Bachelor of Science in Music. One of the issues I had when looking at my potential options as a student of Music was that it mostly encouraged only the Music education degree. With the status of music education in our country, it led me to be wary of putting all my eggs into one basket, so to speak. Ultimately, I ended up going the route of pursuing an interdisciplinary degree.

After reviewing the proposed course load for the Bachelor of Science in Music, I believe I would have chosen to pursue this option. The ability to do a more focused music degree with a side focus as well would have much more market potential in my opinion. Knowing many people have entered in several different facets of the music industry, the additional supplementary learning would have benefitted most all of them greatly. I have mentioned this new curriculum to a few folks, and they are hopeful that students in the future might have the ability to earn this degree! For me personally, I was interested in trying to make my own version of a music therapy degree by mixing in psychology classes with the interdisciplinary option. However, it made it extremely difficult with a full course load to also continue to be as focused in my music. This ultimately led to me burning out and losing my passion.

I see this degree as a fantastic option for future students who have a love of music but are interested in doing something other than teaching at a lower or higher education level. I'm sure there are many incoming students who would be happy to know this option exists. I sincerely hope that Tennessee Tech considers establishing this degree. Thank you for your time!

Sincerely,

Kyle Tarwater

CITY OF COOKEVILLE TENNESSEE

Cookeville Performing ARTS Center

10 East Broad Street 931-528-1313

August 7, 2019

Dr. Wendy Mullen, Director
Tennessee Tech University
School of Music Box 5045
Cookeville, TN 38505

Dr. Mullen-
I am pleased to hear that TTU is considering a new Bachelor of Science degree in Music.

I think this will be an excellent option for students who excel in music and want to work in the public sector in areas other than education or performance. Having the opportunity to augment their music education with courses which will be beneficial in associated fields such as Arts management, business, and technology will be invaluable as they seek employment post-graduation. Too often, we see applicants in the Arts industry who possess tremendous talent in music, dance, or theatre but lack business and management skills. Offering a degree that allows students to choose undergraduate electives in those areas will improve their chances of getting a job and being successful.

In my particular field of Arts Administration, Theatre, and Dance, an applicant holding a Bachelor of Science in Music degree with a focus in theatre or business would be much more attractive and desirable than one with a degree focusing solely on music performance or education.

I fully support a decision to include this degree at TTU would look forward to engaging with its graduates. You may contact me directly with any questions or further comment.

Regards,

Chad McDonald

Chad McDonald
Cultural Arts Superintendent
City of Cookeville
931-520-5296
cbm@cookeville-tn.gov

BRYAN SYMPHONY ORCHESTRA
at Tennessee Tech University

August 9, 2019

To Whom It May Concern,

This letter is to communicate my enthusiastic support for the addition of the Bachelor of Science in Music degree at Tennessee Technological University. The School of Music currently supports degree programs in Music Performance and Music Education, along with a Music Minor, which is merely the bare minimum for a comprehensive collegiate music program. Numerous other universities in Tennessee offer additional specialized courses of study in music, such as Middle Tennessee State University, which offers a Music Industry degree, and the University of Tennessee, which includes Bachelor of Arts degrees in Applied Music or Music and Culture. Tennessee Tech competes directly with these programs for student recruitment, and a wider range of degree programs would aid significantly in those efforts.

As the landscape of professional music continues to evolve, many successful schools of music evolve in parallel, adapting degree programs and adding courses of study to better prepare students for the wide variety of occupations within in the music industry. As an arts administration professional, I have a job I never would have imagined as a student, simply because I was unaware this career path even existed, and "performance" and "education" were the only apparent options. A Bachelor of Science degree would allow students like myself to receive high-quality musical training, but still leave room to personalize one's course of study. Students could choose more classes in computer science, engineering, administration, or psychology to better prepare them for modern, relevant, and lucrative careers in sound engineering, recording, arts administration, or music therapy, for example.

I know I speak for many of the School of Music students and faculty by expressing my excitement for the potential addition of the Bachelor of Science in Music degree. It would create new, compelling opportunities for Music majors, allowing an education more closely tailored to each student's specific career goals. This decision alone would increase the marketability and recruitment power of the School of Music, while ultimately providing students more avenues through which to achieve professional success.

Sincerely,

Rachel Salter

Executive Director
Bryan Symphony Orchestra Association

(931) 525-2633 · contact@bryansymphony.org · 123 West Broad Street, Suite 4, Cookeville, TN 38501 · www.bryansymphony.org

THE UNIVERSITY OF TENNESSEE
MARTIN

Division of Academic Affairs
324 Administration Building
554 University Street
Martin, Tennessee 38238
Office: (731) 881-7010
Fax: (731) 881-7503
www.utm.edu

January 14, 2021

Betty Dandridge, Chief Academic Officer
Tennessee Higher Education Commission
312 Rosa L. Parks Avenue, 9th Floor
Nashville, TN 37243

Dear Betty,

I write to offer my full support for the proposed new Bachelor of Science in music at Tennessee Tech University. During my career, I have found that there is a subgroup of students interested in music who often find themselves in the strange in-between place that Tennessee Tech is trying to address. They are not focused on performance and they are not planning to be K-12 music educators, but they are passionate about music and want to continue studying it. If given the opportunity to do so, they will use their university training beyond graduation in myriad ways in their communities and throughout their lives. Given the importance of the Tennessee Promise and the number of students who transfer into four year institutions with associates degrees, I believe it is wise for 4-year institutions to provide a pathway for transfers to continue pursuing music through their graduation. This program would provide that pathway.

This would not affect the Music Department at UTM. The program will benefit students, especially transfer students, and I hope it is approved.

Sincerely,

Phil Acree Cavalier, Ph.D.
Provost and Vice Chancellor for Academic Affairs

THE UNIVERSITY OF TENNESSEE
MARTIN

COLLEGE of HUMANITIES & FINE ARTS

Department of Music
108 Fine Arts
16 Mt. Pelia Rd.
Martin, Tennessee 38238
Office: 731.881.7402
Fax: 731.881.7415
www.utm.edu/music

January 19, 2021

To Whom it may concern:

This letter is being written in support of the (LON) proposed for a new Bachelor of Science in Music program from TN Tech University.

I support the creation of this degree and see it as one which might potentially be of interest to prospective students who would want to pursue a Master of Music Education Degree, a degree we hope to offer soon at UTM.

At UTM Music we are always looking for ways to collaborate with other universities and programs and we would certainly be open to that if Dr. Hill and other faculty at TN Tech University wished to do so.

I wish them the best of luck with their new program and hope it is approved.

Very best,
Julie

Julie Hill, DMA
Chair and Professor, Department of Music
Co – Editorial Director, Percussive Notes/ Past-President, PAS
UT President's Inaugural Educate Award Winner

Artist Relations Manager (Keyboards)
Yamaha
Franklin, TN 37064
Full-time
https://recruiting2.ultipro.com/YAM1001YAMAM/JobBoard/a32d90a2-eea8-4a64-a24c-fe0769d33017/OpportunityDetail?opportunityId=4b5e819f-e225-4b63-92e9-a996671a4139

Yamaha is looking for an Artist Relations Manager to support the Yamaha Artist Relations Group. Main responsibilities include artist support through communication to our artist community. This position is responsible for managing Artist Relations activities, communication and support for Yamaha "**Keyboard** Artists.

Here's What You'll Do

- Collect, organize, and store artist assets – biographies, photos, approvals, quotes, etc.
- Write monthly reports, database management, special event organization, as well as the planning, developing, and administering of programs to promote sales through the leveraging of Yamaha artists.
- Work cross functionally to assist in creating new literature/promo/social materials and Artist ads.
- Utilize the clinic support system to correctly collect and respond to all clinic support requests.
- Coordinate prospective artist information:
    - Send and track artist applications
    - Collect and organize received applications and research prospective artist background
    - Analyze, review, and provide initial review/recommendation of received applications/packets
    - Research and bring forward new, key prospective artists
- Maintain a strong rapport with artists, artist management and production managers.
- Coordinate timely accommodation sales of product to Artists and clients as related to contractual agreements established for endorsement purposes.
- Interface and coordinate with numerous vendors while maintaining strong relationships.
- Assist the YARG team with various projects/events/concert and film productions.
- Arrange travel and prepare presentations.
- Perform other duties as assigned.

Preferred: BM, BS, or BA College degree in music business or related field

Here's What You'll Bring to the Table:

- High School Diploma
- 5+ years' experience in the music industry/record label and/or publishing
- Advanced knowledge of 'Keyboard' related instruments
- Excellent communication (verbal and written)
- Unquestioned integrity and ethics with a levelheaded approach to doing work, ability to maintain sensitive and confidential information
- Superb customer service skills
- Ability to be successful in a self-managed environment
- Collaboration within a fast-paced team environment
- Advanced computer skills (Microsoft Office Suite, Salesforce, etc.)
- High level of comfort with web technologies and ability to learn new applications quickly
- Motivated, reliable, enthusiastic, professional, and responsible
- Excellent project management and organization skills
- Ability to multi-task high level projects while still delivering core job functions.
- Able to solve problems and think critically.
- Ability to travel up to 75%

Here's what we'll bring to the table:

- Comprehensive benefits package including Medical, Vision, Dental, LTD, Life-Insurance and 401k with match AND automatic contributions
- Performance based bonus program
- Robust employee wellness programs including free music lessons
- Gym membership reimbursement program
- Tobacco cessation reward program
- Free concerts from award winning artists
- Discounted hotel, travel, entertainment, and other attractions
- Employee product purchase program
- Flexible work options
- Casual dress
- Vacation, sick-time and personal floating holidays
- Inclusive and passionate culture
- Opportunity to be part of something bigger; changing people's lives through music and sound

If this role is 'music to your ears', please apply!

Museum Director
The Blues Foundation
Memphis, TN 38103
$48,000 - $53,000 a year - Full-time
https://www.salary.com/job/the-blues-foundation/director-museum-operations-and-programs/j202203030716410391985

Museum/Curatorial Duties

- Oversee and maintain museum exhibits, including artifacts and interactive displays.
- Manage memorabilia collection.
- Develop relationships with donors past, present, and future
- Craft and process necessary paperwork for incoming/outgoing artifacts - Deeds of Gift/Loans, Artifact Returns
- Craft copy for museum labels, providing historical context for artifacts
- Manage exhibits in LRBC gallery, presenting contracts to preparatory and overseeing installation/deinstallation of exhibits.
- Provide docents with prudent information on happenings in the museum, historic information, etc.
- Work with Programming Docent to develop programming that will engage museum visitors and represent the Blues Hall of Fame in a manner that can appeal to a wide array of guests.
- Serve as Ambassador for the Blues Foundation with tourism groups, answering queries/being a point of contact.

Managerial Duties

- Interview, hire, train, and schedule Visitor Services employees and docents.
- Schedule staff, handle time-off requests, and account for employee hours via Square.
- Coach staff on new policies, information pertaining to the museum, approach for scheduling for special/private events, provide and accept feedback on new methods of engaging museum guests/methods to improve museum experience.
- Handle all group sales and special event inquiries for museum, including correspondence, providing all suitable information for special event requests, including photographic examples of past events, approved catering, programming options, formally booking events, and registering them in building calendar for all staff to see.
- Oversee Bricks for the Blues campaign - reaching out to past donors who have not completed inscription requests, gather inscription information, send off information to engravement team, and arrange for paving (ongoing)
- Sign off on work done by Enviro-Master (bathroom sanitizers/supplies), serve as one of the points of contact for housekeeping company.
- Oversee elements of daily operations for the Blues Foundation's three main events: he Blues Hall of Fame induction ceremony, the Blues Music Awards, and the International Blues Challenge. Tasks include gathering materials, coordinating staffing, event setup, overseeing truck rentals, loading/unloading of all necessary items for event staging and production, gathering donations for silent auctions, setup of offsite retail operations,

handling all offsite inventory, setup of online retail terminals and processing transactions, handling all sales reports and cash handling at EOD.
- In lieu of Communications Manager, tasked with handling some social media duties.

General/Daily Responsibilities:

- Perform morning set-up duties - setting up Square POS terminal for daily ops, count till and ensure money is correct, check retail area for cleanliness, set up museum displays and interactives/troubleshoot issues, check museum area for cleanliness, turn on all lights in building, turn on music and unlock doors at opening time
- Serve as prime point of contact for guests at front desk, run POS terminal/assist in checking in guests. Answer any queries about museum (length of tour, content, cost, etc). Serve as ambassador for Memphis by recommending other points of interest, places to eat, etc. Assist Programming Docent when needed with POS terminal/checking guests in.
- Ring up all retail transactions, ensuring that retail area is stocked and ready for each work day. Assist others in retail transactions. Ensure that consignment items are rung up correctly and are accounted for correctly in Square.
- Monitor online retail transactions via Neon. Safely wrap outgoing gifts, ensuring that proper postage is used and shipped off via USPS.
- Answer general questions about Blues Foundation memberships, directing to Membership Manager when on-site.
- Answer phones, providing information on the Blues Foundation, the museum, and all other related queries.
- Serve as primary contact for facility rentals, private functions, tour groups, and Blues Foundation events that occur in the museum
- Maintain daily visitors log, separating by tickets purchased, guests who visit the art gallery, group tours, discounted tickets, students, and children.
- Provide information about rotating exhibits in the LRBC gallery, including background on artist, pricing, and purchasing options. Account for via consignment. Requires knowledge of blues and blues history. Bachelors Degree Preferred. Will be required to assist with The Blues Foundation's events such as International Blues Challenge and Blues Music Awards as needed.

Benefits

- Dental insurance
- Health insurance
- Vision insurance

Rotational Assistant - Country Music / Contemporary Music
Endeavor Operating Company, LLC
Nashville, TN 30723
$41,000 - $54,000 a year - Full-time
https://wmeimg.wd1.myworkdayjobs.com/en-US/ENDEAVOREARLYCAREERS/job/TN-Nashville---1201-Demonbreun/Rotational-Assistant--Contemporary-Music_JR8732

Position Overview:

Rotational Assistants service the company across all departments, primarily within the Contemporary Music department. They complete ad-hoc projects and temporarily cover desks while assistants are away. The position also entails assisting with a variety of daily administrative office tasks. Rotational Assistants will be eligible to apply for assistant desks after training is completed.

Essential Responsibilities:

- Maintaining schedules with high attention to detail
- Reviewing show contracts
- Covering desks for assistants
- **Completing department projects**

Core Competencies:

- Must be detailed oriented and able to handle complex instructions with care and follow-through.
- Must be an excellent multi-tasker and have proven problem-solving abilities.
- Demonstrates accuracy and thoroughness in execution of assigned tasks.
- Friendly and open demeanor with ability to maintain confidentiality at all times.
- Strong understanding of and enthusiasm for the music industry
- Ability to adapt to changes and work in a fast paced, demanding environment.
- Dependable and proactive. Able to prioritize the workload and use time efficiently.

Coordinator, Music Touring
APA Agency
Nashville, TN 37219
$41,000 - $52,000 a year - Full-time
https://recruiting.paylocity.com/recruiting/jobs/Details/1278310/APA-Agency/Coordinator-Music-Touring

About Us
Founded in 1962, Agency for the Performing Arts (APA) is one of the largest diversified talent agencies in the entertainment industry with offices in Los Angeles, New York, Nashville, Atlanta, Toronto and London. APA represents some of the most accomplished, celebrated and award-winning actors, writers, producers, directors, creators, comedians, musicians, authors, intellectual properties, production companies, artisans, social influencers, and lifestyle brands across all media platforms worldwide.

What We Are Looking For:
Seeking a Coordinator with a music touring focus. Must be organized, detail-oriented, self-started and able to learn quickly in an ever-changing environment. This position will assist two senior agents in the concerts department by supporting the Agency's top tier music, comedy and speaker rosters. The position requires a communicative and thoughtful individual who can take initiative while learning on the job. The candidate will need a strong work ethic and an understanding of how their supporting role can help to grow the Agency's practice. Excellent written and verbal communication skills are essential, as well as an interest music and special events. This is an opportunity for someone with agency/management experience who wants to continue on the representation path.

Skills & Qualifications:

- Coordinate tour announcement schedules. Review and approve local marketing assets, advertising, promotions, and social media tactics for all domestic shows.
- Serve as the primary marketing point of contact and liaison for internal and external stakeholders (promoters, management, agency, label, PR).
- Generate deal memos, contracting and reports
- Keep track of contracts and deposits.
- Invoicing and accounting
- Dealing with high profile buyers, promoters, and managers while understanding the importance of confidentiality and professionalism
- Maintain accurate records and release of deposits and commissions.
- Ability to handle a heavy workload, while prioritizing work to meet deadlines.
- Resourceful, proactive, reliable, trustworthy
- Strong written and verbal communication skills

Experience & Education

- 1-2 years experience working in the entertainment industry required
- Prior Agency/Management or Venue experience is highly preferred
- Bachelor’s Degree from an accredited university

Appendix 4

7.1

THEC Financial Projection Form

Tennessee Higher Education Commission
Appendix A: THEC Financial Projections
Please Enter the Name of the Institution Here
Please Enter the Name of the Proposed Academic Program Here

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

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
I. Expenditures								
A. One-time Expenditures								
New/Renovated Space[1]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment	-	-	2,000	2,000	-	-	-	-
Library	-	-		-	-	-	-	-
Consultants	2,000	-	-	-	-	-	-	-
Travel	500	-	-	-	-	-	-	-
Other	-	1,250	750	750	750	750	-	-
Sub-Total One-time	$ 2,500	$ 1,250	$ 2,750	$ 2,750	$ 750	$ 750	$ -	$ -
B. Recurring Expenditures								
Personnel								
Administration								
Salary	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Benefits	-	-	-	-	-	-	-	-
Sub-Total Administration	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Faculty								
Salary	$ -	$ -	$ 2,100	$ 2,100	$ 4,200	$ 4,200	$ -	$ -
Benefits	-	-	210	210	420	420	-	-
Sub-Total Faculty	$ -	$ -	$ 2,310	$ 2,310	$ 4,620	$ 4,620	$ -	$ -
Support Staff								
Salary	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Benefits	-	-	-	-	-	-	-	-
Sub-Total Support Staff	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Graduate Assistants								
Salary	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Benefits	-	-	-	-	-	-	-	-
Tuition and Fees* (See Below)	-	-	-	-	-	-	-	-
Sub-Total Graduate Assistants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operating								
Travel	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Printing	-	-	100	100	150	150	-	-
Equipment	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Sub-Total Operating	$ -	$ -	$ 100	$ 100	$ 150	$ 150	$ -	$ -
Total Recurring	**$ -**	**$ -**	**$ 2,410**	**$ 2,410**	**$ 4,770**	**$ 4,770**	**$ -**	**$ -**
TOTAL EXPENDITURES (A + B)	**$ 2,500**	**$ 1,250**	**$ 5,160**	**$ 5,160**	**$ 5,520**	**$ 5,520**	**$ -**	**$ -**

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

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

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
II. Revenue								
Tuition and Fees[2]	-	84,176	147,308	210,440	273,572	315,660	-	-
Institutional Reallocations[3]	2,500	(82,926)	(142,148)	(205,280)	(268,052)	(310,140)	-	-
Federal Grants[4]	-	-	-	-	-	-	-	-
Private Grants or Gifts[5]	-	-	-	-	-	-	-	-
Other[6]	-	-	-	-	-	-	-	-
BALANCED BUDGET LINE	**$ 2,500**	**$ 1,250**	**$ 5,160**	**$ 5,160**	**$ 5,520**	**$ 5,520**	**$ -**	**$ -**

Notes:

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

N/A

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

Cost of tuition and University fees (excluding housing or meal plan) for a full-time student (12 credit hours) is $5,261 per semester.

Estimated revenue for year 1 was calculated based on a projected enrollment of 8 students.
Estimated revenue for year 2 was calculated based on a projected enrollment of 14 students.
Estimated revenue for year 3 was calculated based on a projected enrollment of 20 students.
Estimated revenue for year 4 was calculated based on a projected enrollment of 26 students.
Estimated revenue for year 5 was calculated based on a projected enrollment of 30 students.

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

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

N/A

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

N/A

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

No other funding sources exist.

THEC TSAC

EMILY HOUSE
Executive Director

STATE OF TENNESSEE
HIGHER EDUCATION COMMISSION
STUDENT ASSISTANCE CORPORATION
312 ROSA L. PARKS AVENUE, 9TH FLOOR
NASHVILLE, TENNESSEE 37243
(615) 741-3605

BILL LEE
Governor

TO: Lori Bruce, Provost and Vice President for Academic Affairs
Tennessee Technological University

FROM: Julie A. Roberts, Chief Academic Officer
Tennessee Higher Education Commission

Digitally signed by Julie A. Roberts
Date: 2022.09.21 13:29:11 -05'00'

SUBJECT: Tennessee Technological University
Music, Bachelor of Science

DATE: September 21, 2022

Pursuant to THEC Academic Policy A1.0 *(New Academic Programs: Approval Process)*, THEC staff will support the proposed Music, Bachelor of Science (BS) degree. This proposed program has satisfied all requirements with conducting a site visit and responding satisfactorily to all recommendations and suggestions by the external reviewer, Dr. Amir Zaheri, Associate Professor and Associate Director of the School of Music at the University of Alabama

Tennessee Technological University may now seek approval from the Board of Trustees (BOT). Contingent upon approval by the BOT, and a formal request indicating that such approval has been granted, Tennessee Technological University may request that the Music, BS program be placed on the Commission's agenda for approval.

cc: Emily House, THEC, Executive Director
Philip Oldham, TTU, President
Sharon Huo, TTU, Associate Provost
Colin Hill, TTU, Director, School of Music
Ryan Korstange, THEC, Director of Academic Affairs

Agenda Item Summary

8.1

Date: October 6, 2022

Agenda Item: Master Plan Amendment

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Master Plan amendment to include the TAP property and the change from renovation of Crawford Hall to demolish Crawford Hall and construction of a new building.

Crawford Hall Master Plan Amendment

8.1

BAUER ASKEW
architecture . pllc

615
T726.0047
F726.4891
615

1615
sixteenth
avenue south

nashville
tennessee
37212

05 August 22

Mr. Jim Cobb
Tennessee Technological University
220 W. Tenth Street, Room 115
Cookeville, Tennessee 38505

RE: TTU Master Plan
SBC #364/000-02-2019
Subject: Master Plan Amendment
Academic Classroom Project use of Crawford Hall site

Jim,
The intent of the new Master Plan was to renovate Crawford Hall and utilize it as part of the upcoming Academic Classroom project. The goal was to repurpose the existing dormitory structure to create office space connected to classroom functions. Based upon further investigation and the ongoing programming work, the project will be better served by demolition of Crawford Hall than by its renovation.

This recommendation is based upon several factors which limit the viability for using the existing structure. These factors include vertical height, accessibility, rigidity of fenestration and physical presence. The short floor to floor height of the building is a significant issue. This height issue will cause considerable alignment issues with any new construction as well as challenges with the introduction of infrastructure into the building. While existing accessibility issues could be more gracefully address, the misaligned floors when tied to a new structure will provide compounded accessibility issues. The placement of the existing fenestration will likely drive the placement and sizing of offices to make to program adapt to the space available.

The physical presence of the existing building will be another significant obstacle in development of an efficient and functional new building. Retaining the existing structure will drive the majority of the program with its larger scale spaces into the north half of the project site. While adding these larger scale spaces, the scale of the Historic Mall should still be closely addressed and maintained with any new structure. Therefore, the ability to utilize the whole Matthews|Daniel|Crawford site will allow the design of the new building more freedom to be develop into a cohesive solution.

Our expectation is that while the renovation work will save a modest amount of money, the overriding limitations of the existing structure will cause it to be a perpetually limited solution. Our recommendation is to demolish all three buildings to provide a clean slate for the new building.

As this project will be summited as a capital outlay request in the near future, the request is that the current master plan be amended to acknowledge this refinement to the implementation of the project.

Please don't hesitate to call with any questions and comments.

Respectfully,

J. Garry Askew, AIA
Architect
cc: Christine Daniels, TTU

AMENDMENTS

1. ACADEMIC CLASSROOM BUILDING

Page 07	Clarify renovation goal
Page 11	Revised list to show Crawford to be demolished
Page 13	Updated footprint for new Academic Classroom Building
Page 14	Updated footprint for new Academic Classroom Building
Page 35	Crawford rating revised to be <60 and to be demolished
Page 75	Updated narrative for Academic Classroom Building
Page 77	Updated Capital Improvement list and footprint of Academic Classroom Building
Page 81	Updated footprint for new Academic Classroom Building
Page 97	Updated Implementation table
Page 98	Updated footprint for new Academic Classroom Building
Page 99	Updated footprint for new Academic Classroom Building

EXECUTIVE SUMMARY

Tech Tomorrow represents a dynamic strategic plan for the University. The plan incorporates new mission and vison statements, a list of core principles and four guiding strategic goals. The strategic goals are:

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

Innovation in All We Do
Tennessee Tech innovates in all we do, embracing and deploying our technological foundation in our education, research, service, and stewardship.

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

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

The primary purpose of the University is to serve the citizens of the state, in particular, those in the rural Upper Cumberland Region. The university's focus is to provide a technologically advanced education to empower students. The goal of the Master Plan is to enhance the physical environment that will provide the setting for the mission and goals of the University to be accomplished. Therefore, the master plan will address issues such as space needs, existing building and infrastructure maintenance, potential new building placement, vehicular and pedestrian circulation, parking and greenspace as well as more subjective issues such as the perception of the University and the creation of an open, engaging and collaborative environment.

The 2014 Master Plan presented 10, 20, and 30 year visions. The major initiatives were:

- Development of an Integrated Science Building
- Greening the Campus
- Reallocation of Parking
- Refinement of Vehicular Circulation
- Development of an Intramural Building
- General Athletic Improvements

To a great degree, as of this writing, most of these priorities have been accomplished, are in progress or have a portion which is significantly under way. As illustrated on the following page, the improvements represent the realization of a significant portion of the 30-year Vision.

Building upon the concepts generated in the 2014 Master Plan, the 2022 Master Plan is intended to provide a comprehensive tool for planning in the future. The plan supports current and future institutional goals and initiatives that strive to enhance academic quality, improve student collaborative learning, and continue the overall beautification of campus. The proposed strategies and recommendations provide a blueprint for flexible growth that allows TTU to achieve the following objectives:

- Elevate perception of the campus to help recruit students and faculty and engage alumni and donors
- Develop an engaging environment to encourage students to remain on campus
- Maintain the academic core by locating all learning facilities within the central district
- Enhance the Historic Quadrangle by defining renovation and repurposing strategies, where functional and feasible
- Maintain architectural integrity of the campus vernacular
- Enhance and create campus greenspace with expanded and interconnected linking of quadrangles
- Relocate parking from the campus core by distributing lots around the perimeter of campus
- Develop strategically located parking garages
- Promote a pedestrian and bike friendly campus with reduced vehicular circulation
- Strengthen the campus perimeter to create a clear and perceivable boundary for the University
- Create a "front door" to the campus from the Seventh Street and Willow Avenue intersection and from the approach onto the campus along University Drive.
- Continue the progressive rehabilitation of aging buildings and infrastructure

The Tennessee Technological University 2022 Master Plan provides a combination of text and diagrams that provide an overview of existing campus conditions along with corresponding recommendations for future improvements. The student population at TTU was nearing 12,000 around 2010. Due to specific anticipated factors, the population declined over the following decade to the current population of 10,177 students paralleling a similar decline statewide. This master plan involves measures to improve and enhance the overall student experience and education to pave a path back to a 12,000-student population and beyond. Therefore, instead of setting an artificial date horizon, the goal of this master plan is to envision a campus that can accommodate 12,000 students and then establishing the next horizon as 15,000 students.

The master plan document is divided into three primary sections: Existing Campus, Future Vision and an Appendix with various detailed studies and supporting documentation.

CAPITAL IMPROVEMENT PROJECTS

1. JOHNSON HALL RENOVATION
   1a. FOSTER DEMOLITION
2. NEW ENGINEERING BUILDING #1/ FOUNDRY REPLACEMENT
   2a. LEWIS HALL DEMOLITION AND FOUNDRY DEMOLITION
3. ACADEMIC CLASSROOM BUILDING
   3a. MATTHEWS/DANIEL DEMOLITION
   3b. CRAWFORD DEMOLITION
4. BROWN HALL RENOVATION
5. PRESCOTT HALL RENOVATION
6. MEMORIAL GYM RENOVATION
7. NEW ENGINEERING BUILDING #2
   7a. SOUTHWEST HALL DEMOLITION
8. BIOLOGY BUILDING
   8a. PENNEBAKER HALL RENOVATION
9. PHYSICS BUILDING
10. CLEMENT HALL RENOVATION
11. ACADEMIC WELLNESS CENTER RENOVATION
12. BELL HALL EXPANSION
13. VOLPE LIBRARY RENOVATION
14. BRYAN FINE ARTS IMPROVEMENTS
    14a. BRYAN FINE ARTS RENOVATION
    14b. BRYAN FINE ARTS ADDITION
15. OAKLEY HALL EXPANSION
16. NEW ENGINEERING BUILDING #3
17. JOHNSON HALL EXPANSION

NOTE: Capital Improvement Projects are listed with the highest priority projects listed first. the first 8-10 projects define a sequence which should be the most linear, cost effective progression of implementation. (refer to Plan on page 74.)

DISCLOSURE PROJECTS

A. FACILITIES SERVICES COMPLEX

B. MAJOR ATHLETICS PROJECTS
   B1. FOOTBALL OPERATIONS BLDG
   B2. WEST STADIUM REPLACEMENT
   B3. BASEBALL/SOFTBALL COMPLEX

C. PARKING GARAGE(S)
   C1. WINGS UP WAY GARAGE
   C2. PEACHTREE GARAGE
   C3. LIBRARY GARAGE

D. FOOD SERVICE IMPROVEMENTS

E. INNOVATION HOUSING - PHASE II

F. SORORITY ROW

G. ROADEN UNIVERSITY CENTER EXPANSION

H. PARKING & TRANSPORTATION IMPROVEMENTS - PHASE II

I. UNIVERSITY TOWER

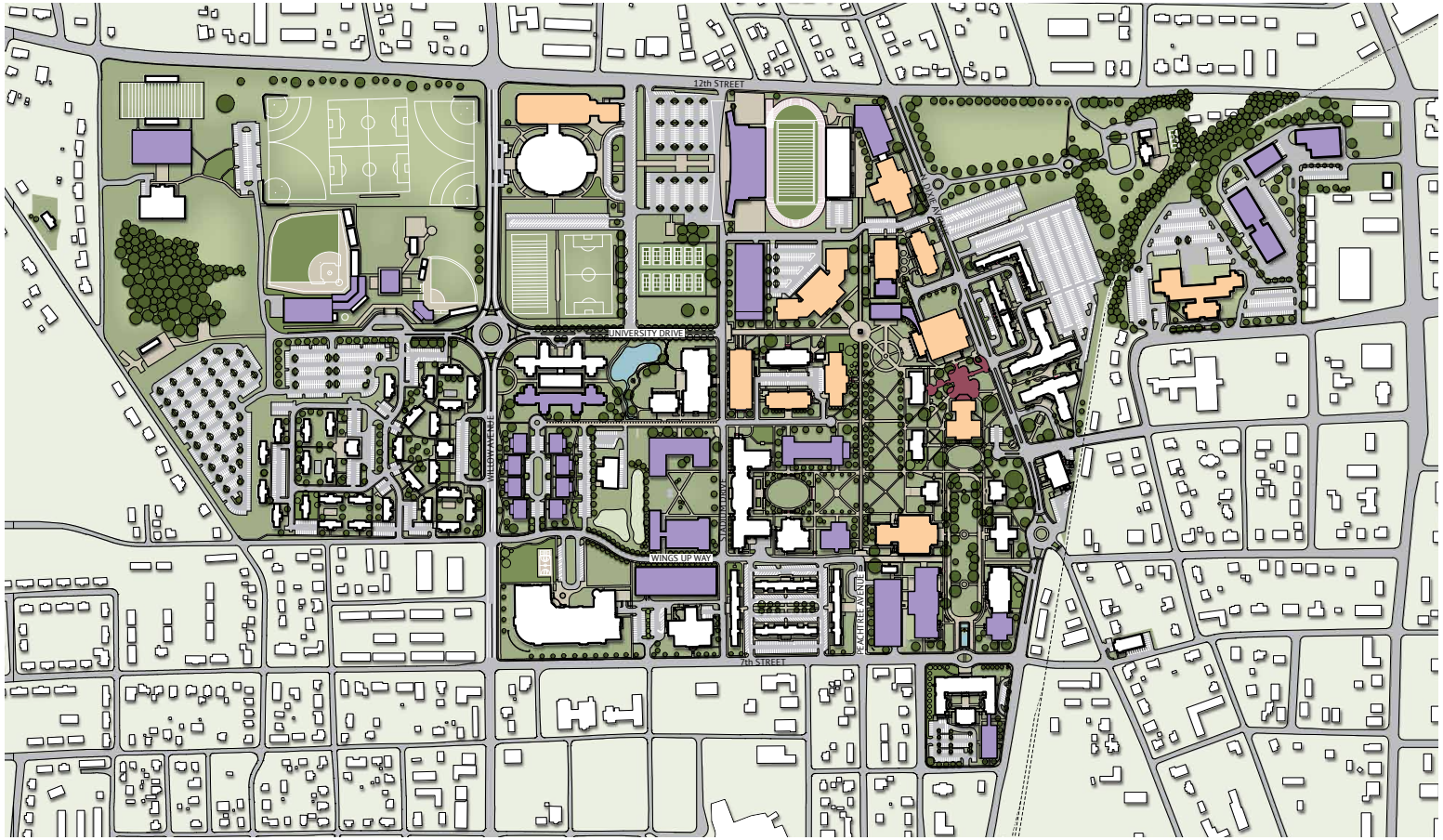
J. ART TRAIL

K. PEACHTREE QUADRANGLE

L. FOUNDATION HALL DEMOLITIONS

NOTE: The Disclosure Projects are listed by group and are not in a particular priority order. (refer to plan on page 78).

2022 MASTER PLAN BUILDING PROJECTS - 12,000 STUDENT CAMPUS



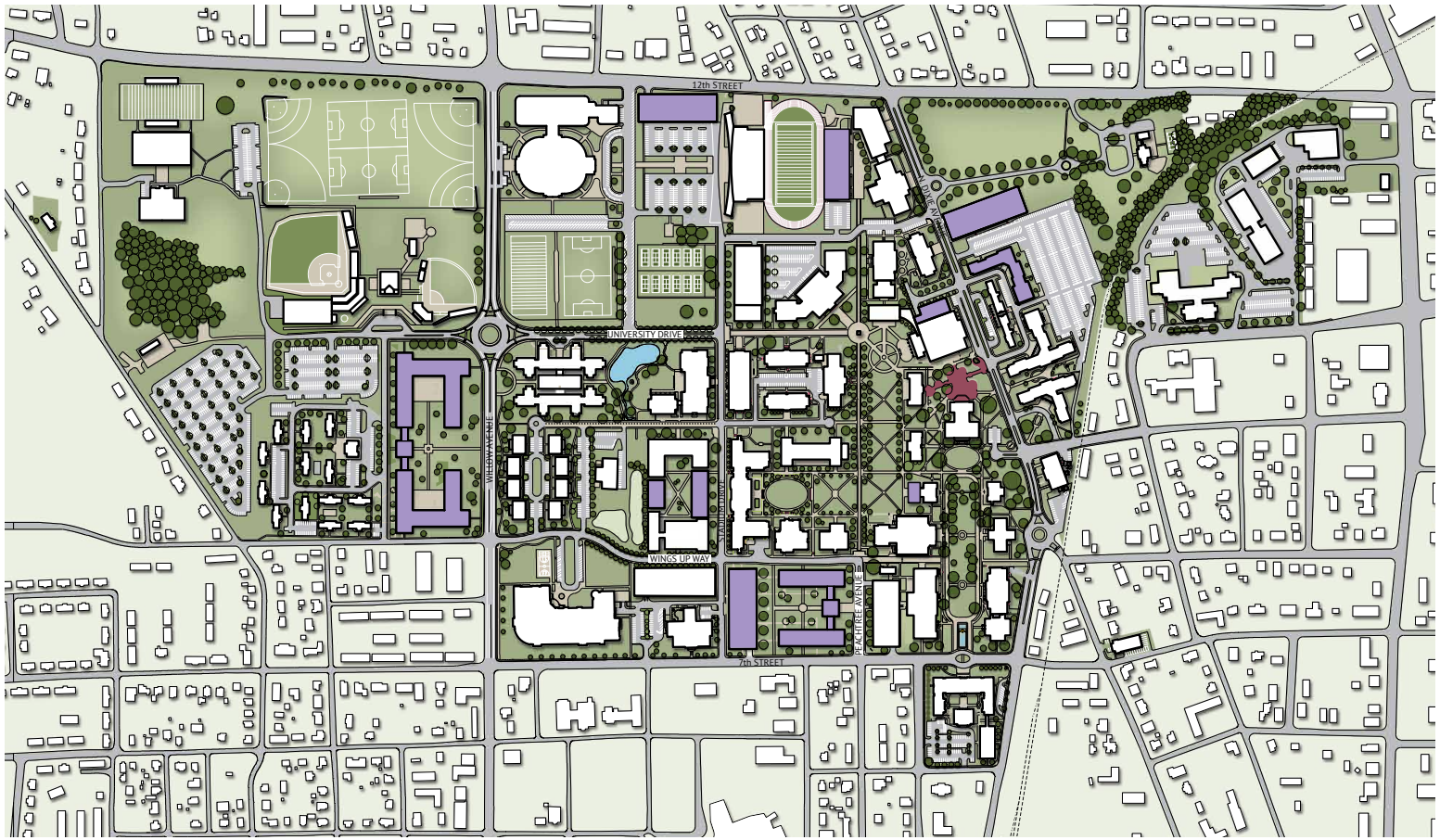
The Campus Master Plan drawing represents the Vision for the 12,000 Student Campus. Refer to the Campus Vision section and the keyed plan on page 98.

LEGEND

- NEW BUILDING
- RENOVATED BUILDING

Figure 1.5 12,000 Student Campus Master Plan

12,000 STUDENT CAMPUS MASTER PLAN



The Campus Master Plan drawing represents the Vision for the 15,000 Student Campus. Refer to the Campus Vision section and the keyed plan on page 99.

LEGEND

- NEW BUILDING
- RENOVATED BUILDING

Figure 1.6 15,000 Student Campus Master Plan

15,000 STUDENT CAMPUS MASTER PLAN

PHYSICAL BUILDING RATING

- A - 80 - 100
- B - 70 - 80
- C - 60 - 70
- D - < 60

BUILDING ANTICIPATED FOR DEMOLITION

8.1

Figure 2.18 Physical Conditions

PHYSICAL CONDITIONS

CAPITAL IMPROVEMENTS

The proposed Capital Improvements are based upon the needs of the University to serve the academic functions. The projects include new construction to address current shortfalls in space per the THEC Guidelines as well as the projected shortfalls as the University grows. The proposed projects also include renovations to upgrade existing facilities as well as the elimination and replacement of antiquated space. The projects are listed in order of priority at the time of this writing. The established priorities are likely to shift over time as needs evolve and funding is available. The list, however, does provide a chronological path for the sequencing of projects for an efficient implementation that minimizes temporary measures to accommodate the refurbishment and growth of the campus.

1. Johnson Hall Renovation

The Johnson Hall renovation will continue the effort to methodically renovate the older buildings on campus updating program spaces as needed while upgrading and replacing building systems that are well past their expected operational life. Since upstream campus infrastructure systems run through and immediately adjacent to Foster Hall, located next door to Johnson Hall, it is recommended that the Foster Hall Demolition be incorporated as part of this project. Combining these initiatives will provide the most efficient and cost-effective process while limiting the intermediate accommodations required to maintain the downstream buildings (Johnson and Pennebaker) in operation while the Foster Hall demolition process is underway.

2. Advanced Construction and Manufacturing Bldg

Due to the overwhelming need for engineering space and the condition of the existing spaces, a new engineering building is proposed. The building is proposed to accommodate Advanced Construction and Manufacturing program providing the consolidation of the shops and materials testing for the college. It will also provide for the relocation of the Advanced Manufacturing department and the Foundry. This will allow for the demolition of Lewis Hall and the Foundry to clear their location for future development. Likewise, with the consolidation of the shops, the new building will open space within Prescott, Brown and Clement Halls for renovation.

3. Academic Classroom Building

The Academic Classroom Building will replace the Matthews and the Daniel Buildings, as well as Crawford Hall, which are among the lowest ranked buildings according to the PFI scores. Each has a PFI score of less than 60. This initiative will allow the academic building program to utilize the whole site on the southwest corner of the Historic Quadrangle without the compromises that renovation of any of the three structures would demand. The building will, however, comply with the scale and historical vernacular of the Historic Quad. The building will serve needs of the College of Arts and Sciences and the College of Education as well as the Office of Research and the Office of Communications & Marketing.

Figure 3.8 Bell Hall courtyard

CAPITAL IMPROVEMENTS

4. Brown Hall Renovation
The Brown Hall renovation is envisioned to be the first in a series of Engineering Quad Renovations. It is recommended that the Engineering Quad buildings (other than Bruner Hall which completed its renovation in 2021) be combined as a multi-phased project. This will continue the effort to methodically renovate the older buildings and provide for programmatic refinements as well as systems upgrades. Even with the current new Ashraf Islam Engineering Building, the engineering program will still represent the greatest space need on campus. Refer to the Appendix for a comprehensive master plan for the engineering program.

5. Prescott Hall Renovation
The Prescott Renovation is proposed as the second of the multi-phased engineering quad upgrades. As the largest of the Derryberry Era buildings in need of programmatic and systems upgrades, the Prescott renovation will require considerable temporary space to accomplish these improvements. This will likely involve utilizing most of the Foundation Hall Building as swing space, as other building renovations have done, as well as utilizing portions of the Laboratory Science Commons building to accommodate the fume hood needs of specific programs. However, the optimal phasing allows the Chemical Engineering department to move into a renovated Brown Hall as envisioned by the Engineering Master Plan.

6. Memorial Gym Renovation
While still functional, the ninety-two year old gym building is in need of renovation to improve the programmatic utilization of the space as well as update the building systems. The renovations will include the development of the adjacent parking lot as a campus quadrangle outdoor space.

7. New Engineering Building
To address more of the outstanding current space need, a second new engineering building is proposed. The building will combine certain aspects of the engineering and interdisciplinary studies programs to develop an emphasis on Environmental Engineering. The location in the southwest quadrant of the Engineering and Laboratory Science district will provide a synergy with civil engineering, biology, chemistry and earth science for the environmental programs. The project will include the demolition of the existing Southwest Hall on the building site as well as the relocation of the university's Child Development Lab to the Foundation Hall area of the campus.

8. Biology Building
The remainder of the Biology Department is proposed to be relocated from Pennebaker Hall to the north side of the Laboratory Science Quadrangle. This will allow these programs to be located in the vicinity of the Micro and Molecular Biology programs at the Laboratory Science Commons and further define the Science Quadrangle. As part of the project, it is proposed that the Art Program be relocated from the north end of Foundation Hall to a renovated Pennebaker Hall. This will accomplish the needed Pennebaker systems replacement as well as provide a permanent space for Art. Therefore, the Art program will be adjacent to Bryan Fine Arts and the remaining programs within the School of Fine Arts. The initiative is also proposed to include the demolition of the north end of Foundation Hall which is separated from the remainder of the building where the Art program has been housed. This will allow the development of parking at the area of the demolition.

9. Physics Building
To provide space within Bruner Hall for the Computer Science program to expand, a new Physics building is proposed to the east of the new Stonecipher Lecture Hall. This will provide a third building to complete the definition of the proposed Science Quadrangle. The project will allow for all three of the programs currently in Bruner Hall to address their growing space needs.

10. Clement Hall Renovation
The Clement Hall renovation will be the last of the phased engineering quad renovations. It will continue the effort to methodically renovate the older buildings on campus, updating program spaces as needed while upgrading and replacing building systems that are well past their expected operational life. As described in the Engineering Master Plan (see Appendix), Clement Hall is envisioned to progressively evolve to become a Math Building as well as maintain its current function as the campus Data Center, and home of Information Technology Services.

11. Academic Wellness Center Renovation
This renovation is proposed to convert the former student recreation building into an academic building. The renovation will include programmatic as well as building systems upgrades. The existing pool is proposed to be infilled. The building will be renovated to provide program space for the growing Exercise Science, Physical Education and Wellness program.

12. Bell Hall Expansion
The Bell Hall Expansion will provide additional academic space for the expansion of the Nursing program with the addition of post graduate programs.

13. Volpe Library Renovation
The Library renovation will provide programmatic as well as building systems upgrades.

14. Bryan Fine Arts Renovation and Addition
The renovation and addition will provide programmatic as well as building systems upgrades.

15. Oakley Hall Expansion
The addition will provide added space for the anticipated growth in the School of Agriculture and Human Ecology.

16. New Engineering Building #2
Another new engineering building will complete the engineering master plan and provide space to fulfill the needs of the college. The building is envisioned to connect the engineering buildings within the new southwest Engineering Quadrangle. (see the Engineering Master Plan in the Appendix).

Figure 3.9 Capital Improvement Projects

CAPITAL IMPROVEMENT PROJECTS

#	PROJECT	NEW	RENOVATION	STORIES	AREA (SF)
1	JOHNSON HALL RENOVATION	X	X	4	68,171
1a	FOSTER DEMOLITION				60,743
2	ADVANCED CONSTRUCTION AND MANUFACTURING BUILDING	X		3	80,000
3	ACADEMIC CLASSROOM BLDG	X		2-3	91,000
3a	MATTHEWS/DANIEL DEMOLITION				43,555
3b	CRAWFORD DEMOLITION				42,042
4	BROWN HALL RENOVATION		X	4	55,001
5	PRESCOTT HALL RENOVATION		X	5	111,955
6	MEMORIAL GYM RENOVATION		X		87,181
7	NEW ENGINEERING BUILDING	X		3	100,000
7a	SOUTHWEST HALL DEMOLITION				23,500
8	BIOLOGY BUILDING	X		3	93,785
8a	PENNEBAKER HALL RENOVATION		X	4	59,679
8b	PARTIAL FOUNDATION HALL DEMOLITION				
9	PHYSICS BUILDING	X		3	38,378
10	CLEMENT HALL RENOVATION		X	4	62,887
11	ACADEMIC WELLNESS CENTER RENOVATION		X	2	77,895
12	BELL HALL EXPANSION	X		3	27,635
13	VOLPE LIBRARY RENOVATION		X	3	132,645
14a	BRYAN FINE ARTS RENOVATION		X	3	55,110
14b	BRYAN FINE ARTS ADDITION	X		2	60,965
15	OAKLEY HALL EXPANSION	X		2	38,922
16	NEW ENGINEERING BUILDING #2	X		3	90,000
17	JOHNSON HALL EXPANSION	X		4	25,000

LEGEND

- CAPITAL IMPROVEMENT NEW CONST.
- CAPITAL IMPROVEMENT RENO.
- ON-GOING PROJECT

CAPITAL IMPROVEMENT PROJECTS

Figure 3.11 Disclosure Projects

DISCLOSURE PROJECTS

#	PROJECT	NEW	RENOVATION	STORIES	AREA (SF)
A	FACILITIES SERVICES COMPLEX	X			
B	MAJOR ATHLETICS PROJECTS	X			
	B1 - FOOTBALL OPERATIONS BLDG	X			
	B2 - WEST STADIUM REPLACEMENT	X			
	B3 - BASEBALL/SOFTBALL COMPLEX	X			
C	PARKING GARAGE(S)	X			
	C1 - WINGS UP WAY GARAGE	X			
	C2 - PEACHTREE GARAGE	X			
	C3 - LIBRARY GARAGE	X			
D	FOOD SERVICE IMPROVEMENTS		X		
E	INNOVATION HOUSING - PHASE II	X			
F	SORORITY ROW	X			
G	ROADEN UNIVERSITY CENTER EXPANSION	X	X		
H	PARKING & TRANSPORTATION IMPROVEMENTS - PHASE II		X		
I	UNIVERSITY TOWER	X			
J	ART TRAIL	X			
K	PEACHTREE QUADRANGLE		X		
L	FOUNDATION HALL DEMOLITIONS		X		

LEGEND

- DISCLOSED PROJECT NEW CONST.
- DISCLOSED PROJECT RENO.
- ON-GOING PROJECT

IMPLEMENTATION PLAN

The Implementation Plan incorporates the anticipated projects envisioned to facilitate the vision of the University in the coming years. The Master Plan outlines a series of projects within the Capital Improvements section which address current space deficits and building maintenance deficiencies. The plan also includes initiatives which will address the projected growth of the University in the future.

The Implementation Plan supports the Ongoing Capital Improvement Plan for the campus. This Improvement Plan includes Capital Outlay, Capital Maintenance, and major Disclosure Projects. The University is required to maintain a five-year capital improvement plan that can be developed from the Improvement Plan listing of initiatives and based upon the emerging priorities of the University reviewed annually. An itemization of the Capital Outlay, Capital Maintenance and major Disclosure Projects is provided on the following page. Also included is a listing of other items which may be considered at the capital appropriation level or incorporated as part of the three major categories.

Note: The projected budgets can change significantly in inflationary times. Therefore, the overall budget request for any given project should be evaluated carefully and adjusted for items such as scope refinement and current inflationary environment. These adjustments should account for the anticipated "bid" date of the actual expenditure of the funding.

2022 Capital Outlay Cost Projections

Priority	Building Name	Projected Budget
2	Advanced Construction and Manufacturing Building	$62,400,000
3	Academic Classroom Building	$45,000,000
9	Physics Building	$23,000,000
8	Biology Building	$72,000,000
7	Engineering Building	$68,600,000
11a	Academic Wellness Center	$4,000,000
13	Bell Hall Expansion	$16,500,000
15b	Bryan Fine Arts Expansion	$36,100,000
16	Oakley Hall Expansion	$23,200,000
17	Engineering Building #2	$54,000,000
18	Johnson Hall Expansion	$14,000,000
		$418,800,000

2022 Disclosed Projects Cost Projections

Item	Building Name	Project Budget
A	Facilities Services Complex	$21,500,000
B1	Football Operations Building	$22,000,000
B2	West Stadium Replacement	$29,900,000
B3	Baseball Softball Complex-Turf	$2,260,000
C1	Wings Up Way Garage- Phase II	$13,925,000
C2	Peachtree Garage	$6,500,000
C3	Library Garage/ Remote Chiller Plant	$18,250,000
D	Food Service Improvements	$3,000,000
E	Innovation Housing- Phase II	$53,650,000
F	Sorority Row	$41,500,000
G	University Center Expansion	$17,000,000
H	Parking /Trans. Imp.- Phase III	
I	University Tower	$1,500,000
J	Art Trail	$3,250,000
K	Peachtree Quadrangle	$1,750,000
L	Foundation Hall Demolition(s)	$1,000,000
		$236,985,000

Table 3.12 Implementation Table

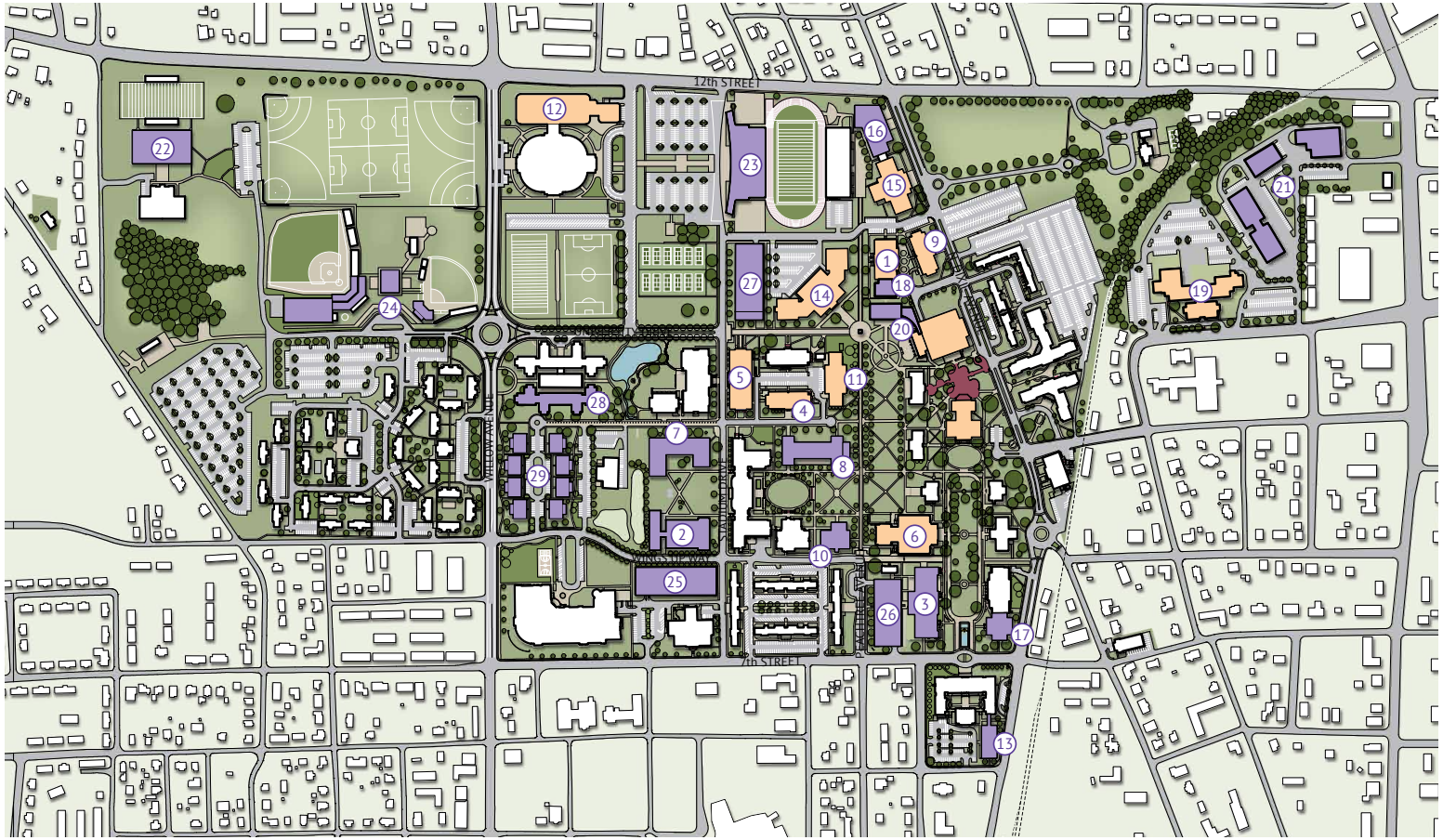
2022 Capital Renovation Cost Projections

Priority	Building Name	Projected Budget
1	Johnson Hall	$14,200,000
4	Brown Hall	$16,978,078
5	Prescott Hall	$37,992,178
6	Memorial Gym	$20,500,000
8a	Pennebaker Hall	$13,750,000
10	Clement Hall	$17,750,000
11	Academic Wellness Center	$17,800,000
12	Derryberry Hall	$13,250,000
14	Volpe Library	$23,500,000
15a	Bryan Fine Arts	$12,600,000
		$188,320,256

2022 Campus Maintenance Cost Projections

Item	Project	Project Budget
A	Electrical- Campus Service	$2,480,000
B	Steam Upgrades/Replacement (6 Phases)	$16,000,000
C	Steam West Campus Loop	$3,800,000
D	Satellite Chiller Plant	$25,500,000
E	Data Telecom Ductbank	$800,000
F	Sewer System Survey and Inspection	$160,000
G	Sewer upgrades near TJ Farr	$320,000
H	Foundation Hall Manhole Replacement	$32,000
I	STEM Center Manhole Replacement	$32,000
J	University Services Stormwater Upgrades	$650,000
K	Storm System Survey and Inspection	$200,000
L	Establish GIS for campus infrastucture	$40,000
M	Annual GIS update and verification	$20,000
N	New Steam/Condensate Johnson to Jobe	$650,000
O	CH-1/CT-1 Replacement - 2027	$3,795,000
P	CH-3/CT-3 Replacement - 2031	$6,325,000
Q	CH-2/CT-2 Replacement - 2033	$7,590,000
		$68,394,000

8.1



LEGEND

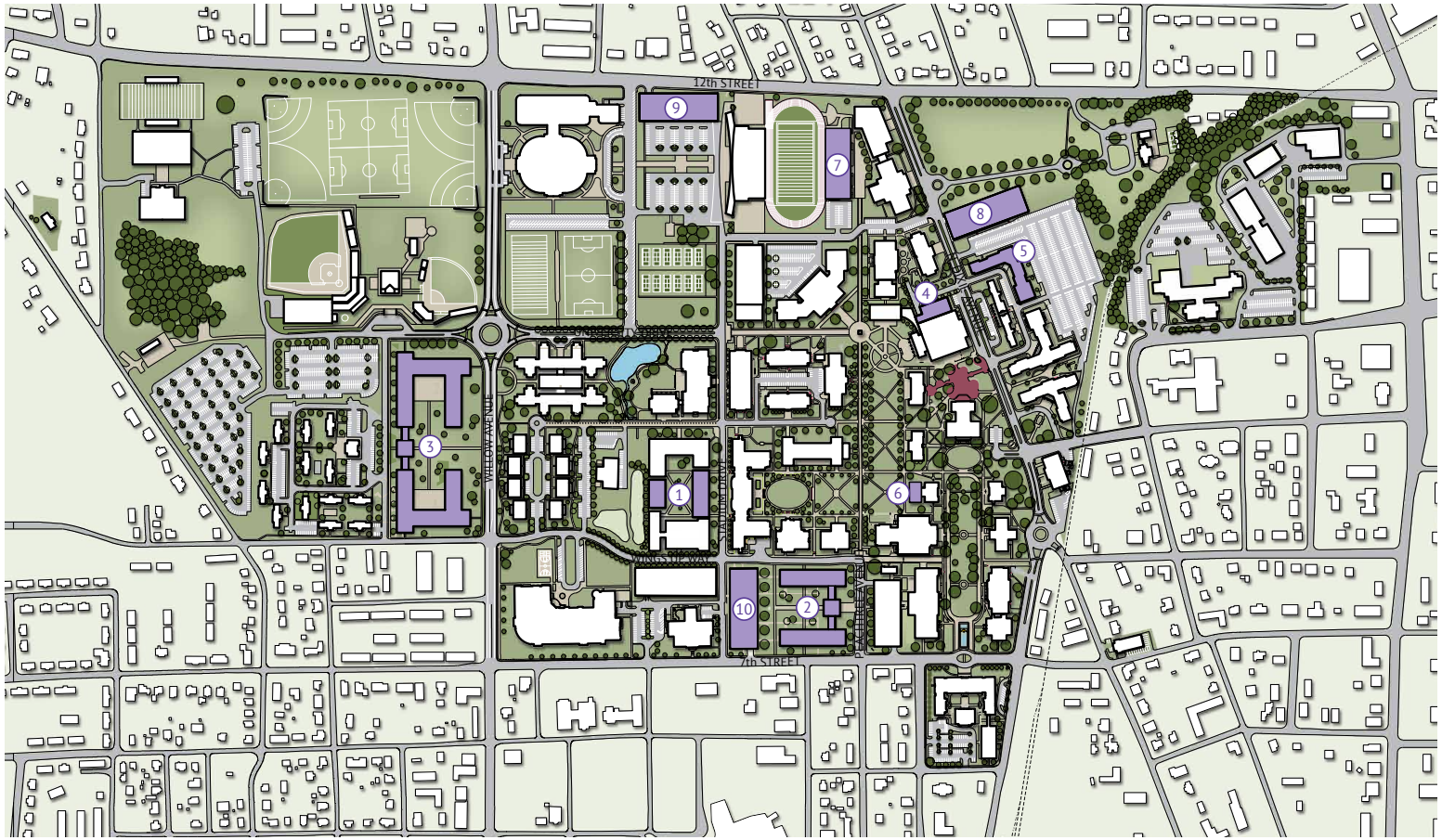
1 JOHNSON HALL RENOVATION
2 ADVANCED CONSTRUCTION AND MANUFACTURING ENGINEERING BLDG
3 ACADEMIC CLASSROOM BLDG
4 BROWN HALL RENOVATION
5 PRESCOTT HALL RENOVATION
6 MEMORIAL GYM RENOVATION
7 NEW ENGINEERING BUILDING
8 BIOLOGY BUILDING
9 PENNEBAKER HALL RENOVATION
10 PHYSICS BUILDING
11 CLEMENT HALL RENOVATION
12 ACADEMIC WELLNESS CENTER RENOVATION
13 BELL HALL EXPANSION
14 VOLPE LIBRARY RENOVATION
15 BRYAN FINE ARTS RENOVATION
16 BRYAN FINE ARTS ADDITION
17 OAKLEY HALL EXPANSION
18 JOHNSON HALL EXPANSION
19 FOUNDATION HALL RENOVATION
20 ROADEN UNIVERSITY CENTER RENOVATION / ADDITION
21 FACILITIES SERVICES COMPLEX
22 FOOTBALL OPERATIONS BLDG
23 WEST STADIUM REPLACEMENT
24 BASEBALL/SOFTBALL COMPLEX
25 WINGS UP WAY GARAGE
26 PEACHTREE GARAGE
27 LIBRARY GARAGE
28 INNOVATION HOUSING - PHASE II
29 SORORITY ROW

LEGEND

NEW BUILDING
RENOVATED BUILDING

Figure 3.28 12,000 Student Campus Master Plan

12,000 STUDENT CAMPUS MASTER PLAN



LEGEND

1 NEW ENGINEERING BUILDING #2
2 NEW ACADEMIC BUILDING AT CAPITAL QUAD
3 CAPITAL QUAD HOUSING REPLACEMENT
4 ROADEN UNIVERSITY CENTER EXPANSION
5 JOBE | MURPHY HOUSING REPLACEMENT
6 BARTOO EXPANSION
7 EAST STADIUM REPLACEMENT
8 DIXIE GARAGE
9 STADIUM GARAGE
10 CAPITAL QUAD GARAGE

LEGEND

NEW BUILDING
RENOVATED BUILDING

Figure 3.29 15,000 Student Campus Master Plan

15,000 STUDENT CAMPUS MASTER PLAN

Crossville Property Master Plan Amendment

8.1

BAUER ASKEW
architecture . pllc

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1615
sixteenth
avenue south

nashville
tennessee
37212

14 September 22

Mr. Jim Cobb
Tennessee Technological University
220 W. Tenth Street, Room 115
Cookeville, Tennessee 38505

RE: TTU Master Plan
SBC #364/000-02-2019
Subject: Master Plan Amendment #2
Crossville Campus

8.1

Jim,

A unique opportunity arose recently that the University would like to accept. Funding has been provided by the state for the purchase and operation of a facility in Crossville. The property is the former Trade-A-Plane campus in downtown Crossville which includes three interconnected buildings and three properties within two adjacent city blocks. The buildings include approximately 120,000 sf of space with approximately half in a three-story office building and the remainder in two connected warehouse structures. Since this opportunity came to fruition recently, it was not included in the master plan. Therefore, we are providing the attached documents to submit as an amendment to the Master Plan.

As an overview, the new Crossville campus will begin as a research facility for the College of Engineering and other university interests. The facility will house the large-scale wind tunnel that was recently purchased by the TTU Foundation within the warehouse space. Several opportunities with local businesses and agencies exist for partnering as well as the leasing of a portion of the facility. In addition, the local city and county officials have requested that the university provide four-year academic offerings at the facility. This has the opportunity to pair with the RSCC Cumberland Center, TCAT Crossville and the two county high schools, all of which are nearby, to offer an array of higher education choices.

As this project will be funded by reoccurring state funds, we have included it as a special section in the Master Plan behind the Capital Improvement Projects. We have also updated the University Property and Property Acquisition sections to incorporate the addition of the Crossville Campus. Therefore, we recommend submitting these documents to amend the current master plan and allow for the implementation of the project.

Please don't hesitate to call with any questions and comments.

Respectfully,

J. Garry Askew, AIA
Architect

cc: Christine Daniels, TTU
Attachments: Revised Master Plan Pages 28, 30 and 78a, Executive Summary

BAUER ASKEW
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14 September 22

Tennessee Tech University
Master Plan Amendment #2- Crossville Campus
SBC #364/000-02-2019

Executive Summary

The property at 174 Fourth Avenue in downtown Crossville includes three interconnected buildings and three properties. The facilities include a three story 61,500 sf office building and two single story warehouse buildings. The larger 49,500 sf warehouse was the former printing shop and is concrete masonry unit construction. The smaller 10,000 sf warehouse is a metal building. The buildings are located on a 2.51 acres property. The .50 and .11 acre lots across the street are part of the overall property and have 52 and 15 parking spaces respectively. The state has provided $3,500,000 in reoccurring funding to own and operate the facility.

The facility is envisioned to become a satellite campus for the university to serve Cumberland County and the nearby Upper Cumberland region. The primary focus of the new campus will begin as research. The university, through the TTU Foundation, has purchased a large-scale wind tunnel which will be housed in the warehouse portion of the facility. The wind tunnel will offer research opportunities for the university which will utilize graduate and primarily undergraduate students to support the research activities. The wind tunnel is also expected to be utilized by related private industry for research activities. Likewise, federal agencies located in Oak Ridge also offer potential collaborations such as the placement of a supercomputer at the new campus. Other opportunities include association with the anticipated test track facility in eastern Cumberland County.

Per the request of the local city and county government, the facility is also envisioned to provide bachelor level academic opportunities. The new campus is located between the Roane State Community College Cumberland Center and the TCAT Crossville campuses (within 3.4 miles and 6 blocks respectively). Likewise, the new campus is located between the two Cumberland County high schools, Stone Memorial and Cumberland County (within 3.6 miles and 5 blocks respectively). Therefore, the synergy of the various levels of higher education and opportunities for dual enrollment for high school students will provide a diverse level of options for students in the region.

UNIVERSITY PROPERTY

Tennessee Tech University is located in the city of Cookeville within Putnam County, Tennessee. Situated on the northern side of Cookeville and surrounded by the hospital and residential neighborhoods, TTU's Main Campus is positioned between 12th Street and 7th Street and is bisected by North Dixie Avenue and by North Willow Avenue. In addition to the main campus and local properties, TTU owns several other properties outside of Cookeville. These regional properties are Shipley Farm (Putnam County), Oakley Farm (Overton County), and the Appalachian Center for Craft (Dekalb County). While the University owns a variety of sites, the planning efforts for this 2022 Master Plan focus on TTU's main campus.

The Shipley Farm property, approximately 2.2 miles west of the campus, represents a significant resource for the University. While currently dedicated primarily to agriculturally oriented endeavors including the agriculture pavilion and TTU farm, the property with its gently rolling topography could be considered for supplemental land uses in the future.

The Oakley Farm property was a gift by Millard V. Oakley and wife, J.J. Oakley to Tennessee Tech. This donation helped broaden the University's horizon and improve the School of Agriculture. The property has been recognized by the Tennessee Historical Society as a Pioneer Century Farm. The family of Millard Oakley had farmed this land for more than 200 years. Since 2009, TTU students have worked with the cattle and in the hydroponic greenhouses to study plant growth and genetics. Oakley Farm is one of the largest laboratories of its kind for producing research on livestock, water quality, soils, and crop production.

The Austin Farm is located in Cumberland County. It is just north of I-40 and the city of Crossville approximately 36 miles from the main campus.

The Appalachian Center for Craft is a satellite campus of the nationally accredited School of Art, Craft & Design within TTU's College of Fine Arts. The craft center property is located within the Center Hill Lake area and is leased from the US Corp of Engineers. The mission of the Appalachian Center for Craft is to promote excellence in American craft by teaching both tradition and innovation in professional studio craft, and fostering access to the highest quality craft education, craft artists, craft works, and events in a community arts context.

The Crossville Campus will be a satellite campus within the downtown area of Crossville. The facility consists of a three-story office building and two single story interconnected warehouse buildings. The campus includes the 2.5 acres site with the buildings as well as a .50 and .11 acre lots across the street with 52 and 15 parking spaces respectively. The campus will begin as a research facility with opportunities to lease space to businesses and agencies with similar research focuses. The office building is anticipated to be redeveloped as an academic facility to serve as a satellite teaching facility for the Cumberland County and Upper Cumberland area. The property is currently owned by the TTU Foundation.

University Property	
Property	**Acres**
Main Campus	**256.98**
Primary Campus Area	239.26
Foundation Hall	13.30
E. 11th Street & N. Washington Ave	3.38
1145 North Franklin Ave	0.55
TTU Alumni Building	0.49
Local Property (TTU Foundation Owned)	**126.04**
TTU Golden Eagle Golf Club	126.04
Regional Property	**2639.42**
Shipley Farm (Putnam County)	303.70
Hyder Farm (Putnam County)	27.70
Oakley Farm (Overton County) (Tech Farms, LLC)	1,400
Austin Farm (Cumberland County)	405
Appalachian Center for Craft (Dekalb County)- (Leased)	500
Crossville Campus (Cumberland County)	3.02
Total Property	**3022.44**

Table 2.1 TTU Property

8.1

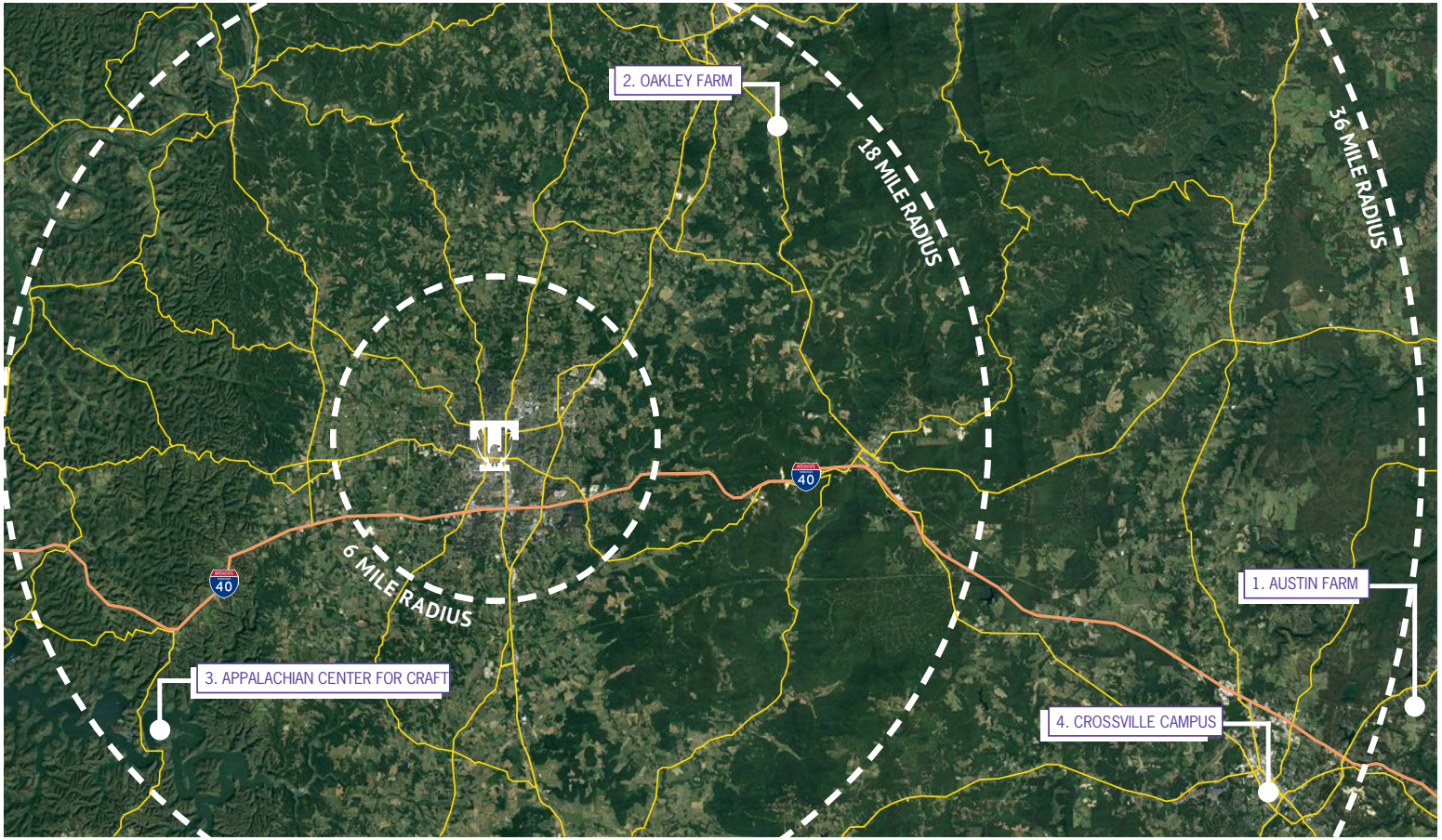

Figure 2.14 Regional Aerial Map

REGIONAL AERIAL MAP

TTU REGIONAL PROPERTY

1. Austin Farm (Cumberland County)
   884 Swicegood Road
   Crossville, TN 38555

2. Oakley Farm (Overton County)
   1198 Rickman Monterey Hwy
   Livingston, TN 38570
   - The Oakley Farm property is a Pioneer Century Farm used by the School of Agriculture where students work with cattle and in hydroponic greenhouses.

3. Appalachian Center for Craft - (Leased) (Dekalb County)
   1560 Craft Center Dr
   Smithville, TN 37166
   - The Appalachian Center for Craft is a satellite campus of TTU's School of Art, Craft & Design.

4. Crossville Campus - (Cumberland County)
   174 Fourth Street
   Crossville, TN 38555
   - The Crossville Campus is expected to be a satellite campus for research and general academic offerings in the local upper Cumberland area

TENNESSEE TECH UNIVERSITY (MAIN CAMPUS)

8.1

LAND ACQUISITION

Since its founding in 1915, Tennessee Technological University has continued to expand its presence in Cookeville to accommodate its growing population. The 2014 Acquisition Plan outlined a significant number of properties to acquire. The four blocks of property at the corner of Willow and Seventh are now owned by the University and have been developed into the new Recreation and Fitness Center. Other properties that have been added to the main campus include several properties at N. Franklin Avenue and 11th Street.

The current Acquisition Plan outlines multiple properties that the University should consider for acquisition. These properties are identified in two categories: high priority and long range. The high priority sites represent properties that could be utilized in the near future. They are located along the south border of Tech Village, the block between Dixie and Mahler Avenue, and the remaining properties that fill up the corner of Twelfth and North Washington Avenue. The long range areas include properties that should be considered, if available, and will likely require accumulation over time. The long range sites lie within the residential neighborhood blocks adjacent to the main campus to the north, west, and east, as well as the two blocks to the south directly west of the Bell Hall site. Likewise, land that becomes available near or adjacent to other currently owned property should also be considered, such as an expansion of the Shipley Farm property.

Away from the main campus, the property acquired by the TTU Foundation on Fourth Street in downtown Crossville should be considered the Crossville Campus of TTU.

Figure 2.15 Mahler Avenue, north of West 7th Street

8.1

REOCCURING FUNDS PROJECTS

A. CROSSVILLE CAMPUS

The new Tennessee Tech Crossville Campus is envisioned at the former Trade-A-Plane facility at 174 Fourth Avenue in downtown Crossville. The property includes three interconnected buildings and three properties. The facilities include a three story 61,500 sf office building and two single story warehouse buildings. The larger 49,500 sf warehouse was the former printing shop and is concrete masonry unit construction. The smaller 10,000 sf warehouse is a metal building. The buildings are located on a 2.51 acres property. The .50 and .11 acre lots across the street are part of the overall property acquisition and have 52 and 15 parking spaces respectively. The state has provided $3,500,000 in reoccurring funding to own and operate the facility.

The facility is envisioned to become a satellite campus for the university to serve Cumberland County and the nearby Upper Cumberland region. The primary focus of the new campus will begin as research. The university, through the TTU Foundation, has purchased a large-scale wind tunnel which will be housed in the warehouse portion of the facility. The wind tunnel will offer research opportunities for the School of Engineering which will utilize graduate and primarily undergraduate students to support the research activities. The wind tunnel is also expected to be utilized by related private industry for research activities as well. In particular, a local business is expected to lease a portion of the facility and wind tunnel time once the facility is operational. Likewise, federal agencies located in Oak Ridge also offer potential collaborations such as the placement of a supercomputer at the new campus. Other opportunities include association with the anticipated test track facility in eastern Cumberland County.

Per the request of the local city and county government, the facility is also envisioned to provide bachelor level academic opportunities. The new campus is located between the Roane State Community College Cumberland Center and the TCAT Crossville campuses (within 3.4 miles and 6 blocks respectively). Likewise, the new campus is located between the two Cumberland County high schools, Stone Memorial and Cumberland County (within 3.6 miles and 5 blocks respectively). Therefore, the synergy of the various levels of higher education and opportunities for dual enrollment for high school students will provide a diverse level of options for students in the region.

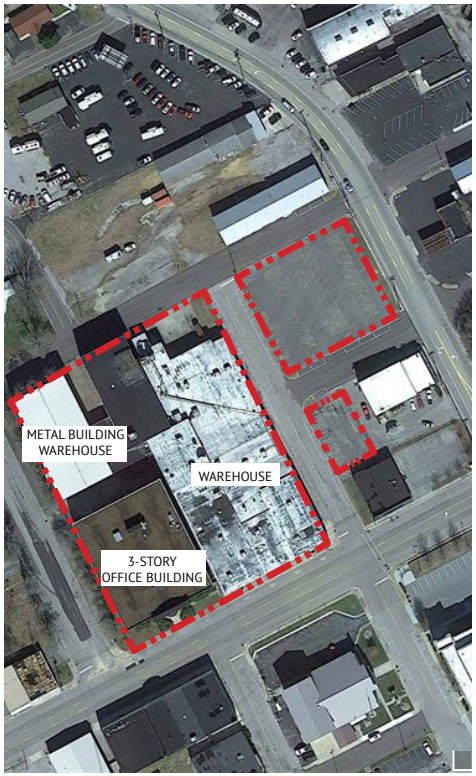

Figure 3.9A Crossville Campus Property

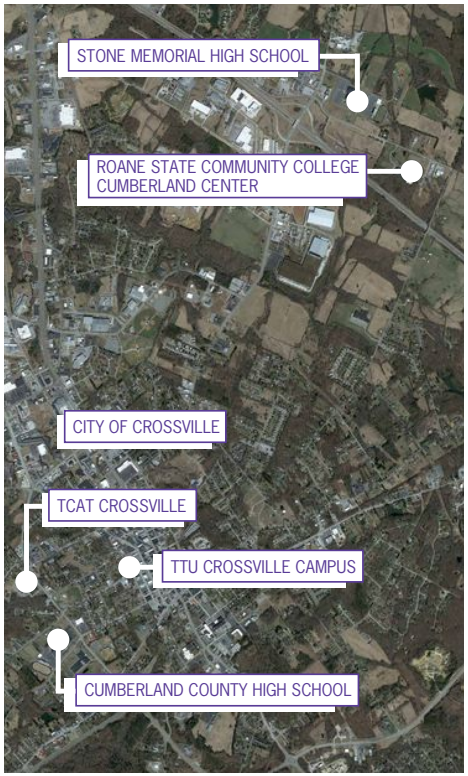

Figure 3.9B Crossville Proximity Map

AMENDMENTS

1. ACADEMIC CLASSROOM BUILDING

Page 07	Clarify renovation goal
Page 11	Revised list to show Crawford to be demolished
Page 13	Updated footprint for new Academic Classroom Building
Page 14	Updated footprint for new Academic Classroom Building
Page 35	Crawford rating revised to be <60 and to be demolished
Page 75	Updated narrative for Academic Classroom Building
Page 77	Updated Capital Improvement list and footprint of Academic Classroom Building
Page 81	Updated footprint for new Academic Classroom Building
Page 97	Updated Implementation table
Page 98	Updated footprint for new Academic Classroom Building
Page 99	Updated footprint for new Academic Classroom Building

2. CROSSVILLE CAMPUS

Page 26	Updated narrative and University Property chart
Page 28	Added the Crossville Campus to the map
Page 29	Updated narrative
Page 78A	Added page to show Crossville Campus property and proximity map

Agenda Item Summary

8.2

Date: October 6, 2022

Agenda Item: Land Acquisition

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Review and approval for acquisition of the TAP property located in Crossville, TN.

Agenda Item Summary

8.3

Date: October 6, 2022

Agenda Item: Capital Budget FY2023-24

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Review of changes made to FY2023-24 Capital Budget request approved by Board of Trustees at June 23, 2022 meeting. Board of Trustee approval is being requested for revised FY2023-24 Capital Budget request.

CAPITAL OUTLAY REQUEST

FY 2023-24 thru 2027-28

								A	B	C = B / A	D = A - B
FY	**Priority**	**Institution**	**Project Name**	**Project Description****	**Project Type**	**New Square Footage**	**Reno. Or Replaced SF**	**Project Cost**	**Committed External Funds**	**Percent Match***	**State Funds Request**
2023-24	1	TTU	Academic Classroom Building	Demolish Matthews, Daniel and Crawford Halls. Construct a new building that will provide classrooms, faculty offices and support spaces for the Colleges of Education and Arts & Sciences. The project will provide additional flexible academic space to address campus-wide space shortages for classrooms and faculty offices. Provide administrative offices for Communications & Marketing and Research & Development	New Construction	91,000	-	$66,500,000	$5,320,000	8%	$61,180,000
2023-24	2									0%	$0
2023-24	3									0%	$0

** Provide a duplicate of the Project Description from the DB70 sheet. Additional brief summary comments may be added for support justification.

Out-Years

FY	Priority	Institution	Project Name	Project Description	Project Type	New Square Footage	Reno. Or Replaced SF	Project Cost	Committed External Funds	Percent Match	State Funds Request
2024-25	1	TTU	Renovate Prescott and Brown Halls	Complete renovation of Prescott and Brown Halls.	Major Renovation		166,956	$64,500,000	$2,580,000	4%	$61,920,000
2024-25	2									0%	$0
2024-25	3									0%	$0
										0%	$0
2025-26	1	TTU	Biology Building	Construct a new facility for the Biology department.	New Construction	93,785		$80,600,000	$6,448,000	8%	$74,152,000
2025-26	2									0%	$0
2025-26	3									0%	$0
										0%	$0
2026-27	1	TTU	New Engineering Building	Construct a new building for engineering and interdisciplinary studies with a focus on environmental engineering.	New Construction	100,000		$75,000,000	$6,000,000	8%	$69,000,000
2026-27	2									0%	$0
2026-27	3									0%	$0
										0%	$0
2027-28	1	TTU	Memorial Gym Renovation	Complete renovation of Memorial Gym.	Major Renovation		87,181	$45,000,000	$1,800,000	4%	$43,200,000
2027-28	2										
2027-28	3									0%	$0

Capital Maintenance Request: FY2023-24

Governing Board: Tennessee Tech

2023-24 Maintenance Allocation: $0 **Total costs must fall within allocation.**

Fiscal Year	Priority*	Institution	Project	Project Cost	Project Description
2023-24	1	TTU	Roaden University Center HVAC Upgrades	$ 1,150,000	Replace air handlers 1 and 3, and the air handler serving Which Wich. Clean the coils and ductwork on air handler 2.
2023-24	2	TTU	Multiple Buildings Elevator Upgrades Phase 1	$ 870,000	Upgrades or replacement of several elevators on campus. Thirty one elevators are included in the scope of work. This is the first phase of a multi-phase project.
2023-24	3	TTU	Campus-Wide Building Controls Upgrades PH 2	$ 2,025,000	Upgrade pneumatic controls to digital controls on several buildings, including replacement of devices and equipment required to complete digital control of the HVAC systems. Project includes all related work.
2023-24	4	TTU	Derryberry Hall Upgrades Phase 1	$ 2,480,000	Evaluate/replace/update the mechanical, electrical and plumbing systems as needed. Add a sprinkler system. Replace materials and finishes impacted by system replacements. Complete any needed repairs to the building's exterior envelope, including window replacements. Abate asbestos materials as required. This is the first phase of a planned 3 - 4 phase project.
2023-24	5	TTU	Bryan Fine Arts Auditorium Upgrades	$ 2,300,000	Upgrade MEP systems, stage lighting and sound systems, and seating for ADA and code compliance,and all related work.

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Fiscal Year	Priority*	Institution	Project	Project Cost	Project Description
2023-24	6	TTU	Roof Replacements	$ 1,140,000	Replace the shingle roofs on Bell Hall and Ray Morris Hall, and all related work
2023-24	7	TTU	Utility Infrastructure Upgrades 1.1	$ 3,030,000	Replacement and repair of utilities campus-wide including, but not limited to, underground steam, steam condensate, chilled water, domestic water and backflow preventors, sanitary sewer, storm sewer, Telecom/ITS fiber optic and copper, gas, electric, manholes and valve pits, and all related work. This is the first phase of a multi-phase project.
2023-24	8	TTU	Utility Infrastructure Upgrades 1.2	$ 1,940,000	Replacement and repair of utilities campus-wide including, but not limited to, underground steam, steam condensate, chilled water, domestic water and backflow preventors, sanitary sewer, storm sewer, Telecom/ITS fiber optic and copper, gas, electric, manholes and valve pits, and all related work. This is the first phase of a multi-phase project.
2023-24	9	TTU	University Services Building Mechanical Upgrades	$ 1,120,000	Replace the air handler, VAV boxes, piping, ceiling grid and lighting.
			Total Project Cost	$ 16,055,000	

* Requests are not limited to 10. Insert more rows if there are more projects to recommend.

Capital Maintenance Out-Years: FY 2024-25 through 2027-28

Fiscal Year	Priority	Institution	Project	Project Cost	Project Description
2024-25	1	TTU	Boiler Replacement	$ 2,025,000	Replace Boiler/Requires Building Addition

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Fiscal Year	Priority*	Institution	Project	Project Cost	Project Description
2024-25	2	TTU	Bryan Fine Arts Building Exterior Repairs	$ 1,200,000	Clean, tuckpoint, caulk, repair, and waterproof brick walls, stone coping, brick patios, window sills, stone caps, retaining walls, concrete expansion joints, seating areas, and all related work. Remove and replace brick as required.
2024-25	3	TTU	Hyder-Burks Arena Upgrades	$ 1,140,000	Install air conditioning and replace the sound system Hyder Burks Ag. Pavilion arena.
2024-25	4	TTU	Foundation Hall Upgrades 1.1	$ 20,500,000	Provide building systems and related space upgrades. Abate asbestos materials as required.
2024-25	5	TTU	Derryberry Hall Upgrades Phase 2	$ 8,400,000	Evaluate/replace/update the mechanical, electrical and plumbing systems as needed. Add a sprinkler system. Replace materials and finishes impacted by system replacements. Complete any needed repairs to the building's exterior envelope, including window replacements. Abate asbestos materials as required.
2024-25	6	TTU	Utility Infrastructure Upgrades 2	$ 5,000,000	Replace underground utilities including steam, chilled water, domestic water, sanitary and storm sewer, telecom, ITS, gas and electric.
2024-25	7	TTU	Stormwater System Repairs	$ 500,000	Repair underground stormwater piping in the campus area west of Willow Avenue.
2024-25	8	TTU	Multiple Buildings Elevator Upgrades Phase 2	$ 2,100,000	Upgrades or replacement of several elevators on campus. Thirty one elevators are included in the scope of work.
2024-25	9	TTU			
2025-26	1		Foundation Hall Upgrades 1.2	$ 13,100,000	Provide building systems and related space upgrades. Abate asbestos materials as required.

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Fiscal Year	Priority*	Institution	Project	Project Cost	Project Description
2025-26	2		Utility Infrastructure Upgrades 3	$ 5,000,000	Replace underground utilities including steam, chilled water, domestic water, sanitary and storm sewer, telecom, ITS, gas and electric.
2025-26	3		Memorial Gym Pool Dehumidification	$ 500,000	Install pool dehumidification
2025-26	4		University Services Building Exterior Updates	$ 1,500,000	Clean, repair, replace masonry. Replace windows and doors. Repair/replace stairs and related components. Repair/replace metal mansard.
2025-26	5		Military Science Building MPE Systems Replacement	$ 500,000	Replace MPE systems in the building.
2025-26	6		Multiple Buildings Elevator Upgrades Phase 3	$ 2,000,000	Upgrades or replacement of several elevators on campus. Thirty one elevators are included in the scope of work.
2025-26	7		Steam Plant Improvements	$ 1,750,000	Provide upgrades to steam plant equipment, remove obsolete coal and ash handling equipment, reconfigure and re-route ductwork feeding abandoned baghouse.
2026-27	1		Utility Infrastructure Upgrades 4	$ 5,000,000	Replace underground utilities including steam, chilled water, domestic water, sanitary and storm sewer, telecom, ITS, gas and electric.
2026-27	2		Campus-Wide Building Controls Upgrades PH 3	$ 1,825,000	Upgrade pneumatic controls to digital controls on several buildings, including replacement of devices and equipment required to complete digital control of the HVAC systems. Project includes all related work.

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Fiscal Year	Priority*	Institution	Project	Project Cost	Project Description
2026-27	3		Campus-wide Building Envelope Repairs	$ 3,000,000	Building envelope repairs to include repair/replacement of building envelope components. Exterior repairs will include stairs, handrails, railings, seating, doors, windows, columns and all other exterior building components.
2027-28	1		Utility Infrastructure Upgrades 5	$ 5,000,000	Replace underground utilities including steam, chilled water, domestic water, sanitary and storm sewer, telecom, ITS, gas and electric.
2027-28	2		Campus-wide Building Envelope Repairs	$ 3,000,000	repair/replacement of building envelope components. Exterior repairs will include stairs, handrails, railings, seating, doors, windows, columns and all other exterior building components.

8.3

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Agenda Item Summary

8.4

Date: October 6, 2022

Agenda Item: Disclosed Project

☐ **Review** ☒ **Action** ☐ **No action required**

PRESENTER: Claire Stinson, Vice President for Planning & Finance

PURPOSE & KEY POINTS: Review and approval of 3rd quarter FY2022-23 Capital Budget Disclosed project.

3.1 DB70

1 Department: Tennessee Higher Education Commission
Institution: TTU
Project: Football Operations Center
City/County: Cookeville/Putnam

2 Fiscal Year: 2022-2023 **Priority** 999

3		New		Reno/Maint
	Capital Outlay			
	Capital Maintenance	0	Gross Sq.Ft.	0
X	Disclosure	0	Net Sq.Ft.	0
X	Designer Required	0.00	Cost/Sq.Ft.	0.00

4 Project Description:
Construct a Football Operations Center.

Proj. Typ: Improvement
If new const., is it in the Master Plan: Yes
Will the project add to E&G area?: Yes

5 Total Project	This Request		Estimated Building Construction Cost: 0
10,400,000	10,400,000	Building Construction	
1,000,000	1,000,000	Site & Utilities	
0	0	Built-in Equipment	
11,400,000	11,400,000	**Bid Target**	
570,000	570,000	Contingency: 5.00 5.00 percent	
11,970,000	11,970,000	**MACC** (Maximum Allowable Construction Cost)	
706,719	706,719	Fee: 5.90408977	New
1,500,000	1,500,000	Movable Equipment	
350,000	350,000	first other *ction Service and Commissioning*	
50,000	50,000	second other *Consultants*	
423,281	423,281	Administration & Miscellaneous	
15,000,000	15,000,000	**Total Cost**	

6 Funding Request:

THIS REQUEST		
0	0	STATE funds
0	0	FEDERAL funds
15,000,000	15,000,000	Local and Institutional Funds — Gifts

7 Previous SBC Approved Funding:

	fund year	description
already approved for existing SBC project	0	
0	0	
plus This Request	0	
15,000,000	0	

8 SBC Action: If an existing project, SBC Project No.: NA

Action Date	SBC Action

9 Designer: Unassigned

8.4

Excerpt from Master Plan

DISCLOSURE PROJECTS

The remainder of the lower area (southern portion) is proposed to be supplemental student parking with shuttle service. The chiller plant is the only building that is proposed to remain at the existing Facilities Complex.

B. Athletics Projects

The Athletics Department's projects and priorities are outlined in the Athletics Master Plan. The major imminent projects include:

B1. Football Operations Building
B2. West Stadium Replacement
B3. Baseball | Softball Complex

C. Parking Garages

Parking garages are proposed to add on-campus parking density for those who would like to park closer to the campus activities. The order of implementing the garages is subject to change.

C1. Wings Up Way Garage - The first garage is proposed to be located just north of Ray Morris Hall on Wings Up Way. The garage will serve the southern portion of the campus including the Marc L. Burnett Student Recreation and Fitness Center and the Capital Quad residence halls. Due to its location, the garage should be considered for housing the future chiller plant expansion to minimize the upgrades needed in the campus chilled water piping system.
NOTE: This Garage is part of the currently ongoing Disclosed Campus Improvements Project

C2. Peachtree Garage - A second garage is proposed just west of the proposed Academic Classroom Building. The garage will be two levels and will be integrated into the hillside with the first level at the Peachtree Avenue level and the upper level at existing parking level. The garage will provide parking for students as well as faculty and staff. The Peachtree Garage will also provide a replacement for the parking eliminated to create the Peachtree Mall green space in the core of the campus.

C3. Library Garage - A third parking garage is proposed at the west side of the Library site. The garage will serve faculty and commuting students as well as athletic events. This garage is also proposed to include an Admissions Center with dedicated visitor parking at the southern end to provide a convenient location at the entry to the campus for prospective students and their families to begin their visit to the campus. The garage is also a potential site for a remote chiller plant.

D. Food Service Improvements

The food services project(s) represent ongoing projects related to providing continually improving food service for the University.

E. Innovation Housing- Phase II

The Innovation Housing is proposed to be a two-building residential complex with a separate Innovation Center. The buildings are proposed to be organized about the centerline from the engineering quad through the center of the new engineering building. Phase II will include the southern residential hall.

F. Sorority Row

The sorority row is envisioned as an eight-building grouping of houses. The row is envisioned to be designed as a cohesive neighborhood grouping to provide a central outdoor commons space. While serving as the combining element of the community, the commons will provide space for group functions such as sorority rush events. Each house is envisioned to serve 30-32 women. Currently, there are five sororities on campus as well as other women's organizations.

G. Roaden University Center Expansion

The Roaden University Center Expansion is envisioned to serve a variety of programmatic needs. The expansion should also provide a visual element to serve as the northern end to the Peachtree Quadrangle. The expansion should also consider the renovation needs within the existing facility as well as maintain the delivery access for the kitchen on the north-west side of the lower level.

H. Parking & Transportation Improvements - Phase II

Road Improvement projects are envisioned to extend the current work throughout the campus. The initial work could include the roads surrounding the new Ashraf Islam Engineering Building and the J.J. Oakley Innovation Center and Residence Hall.

I. University Tower

The university tower is envisioned as an iconic element within the Peachtree Quadrangle. The classic Georgian features of the tower should reflect the campus architecture and provide a vertical element on the axial center of University Drive and the Peachtree Promenade. The tower could incorporate a clock, a bell or carillon, or simply exist as a vertical feature.

J. Art Trail

The art trail is envisioned as a series of art elements throughout the campus. Several concepts are presented later in the master plan which form a walking "trail" through the campus. The integration of art throughout the campus, however, should not be limited to the proposed locations.

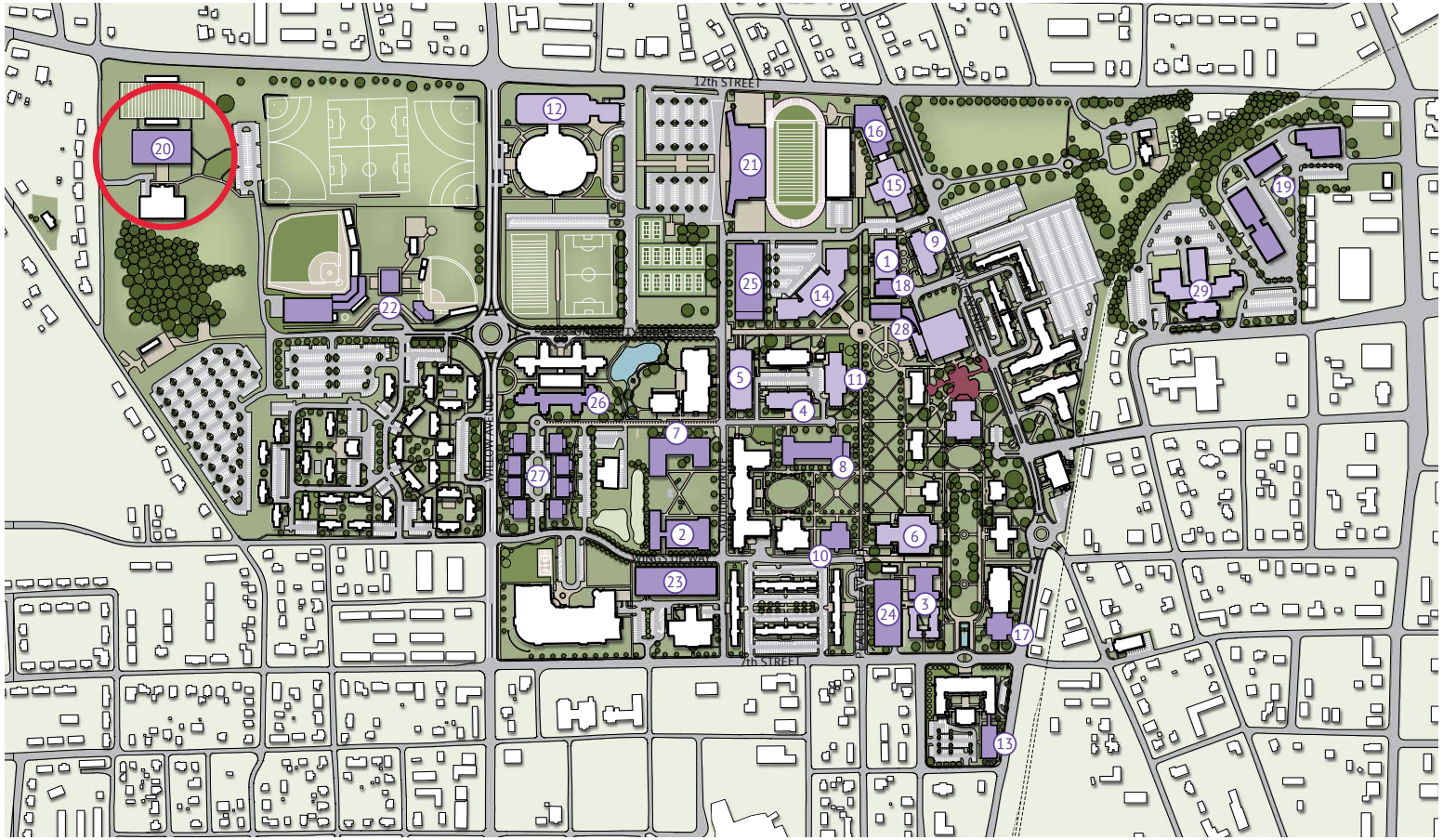
K. Peachtree Quadrangle

The Peachtree Quadrangle is envisioned as the third major quadrangle on the campus. The Quadrangle will interconnect with the other Quads to provide linked greenspace throughout the core of the campus.

L. Foundation Hall Demolition(s)

Foundation Hall provides a valuable resource for the University as a swing building for campus renovations as well as for permanent campus support space. The building, however, does have portions that are underutilized, in need of renovation, or detached from the remainder of the building. Therefore, portions could be considered for demolition.

8.4



LEGEND

1 JOHNSON HALL RENOVATION
2 NEW ENGINEERING BUILDING #1
3 ACADEMIC CLASSROOM BLDG/ CRAWFORD RENOVATION
4 BROWN HALL RENOVATION
5 PRESCOTT HALL RENOVATION
6 MEMORIAL GYM RENOVATION
7 NEW ENGINEERING BUILDING #2
8 BIOLOGY BUILDING
9 PENNEBAKER HALL RENOVATION
10 PHYSICS BUILDING
11 CLEMENT HALL RENOVATION
12 ACADEMIC WELLNESS CENTER RENOVATION
13 BELL HALL EXPANSION
14 VOLPE LIBRARY RENOVATION
15 BRYAN FINE ARTS RENOVATION
16 BRYAN FINE ARTS ADDITION
17 OAKLEY HALL EXPANSION
18 JOHNSON HALL EXPANSION
19 FACILITIES SERVICES COMPLEX
20 FOOTBALL OPERATIONS BLDG
21 WEST STADIUM REPLACEMENT
22 BASEBALL/SOFTBALL COMPLEX
23 WINGS UP WAY GARAGE
24 PEACHTREE GARAGE
25 LIBRARY GARAGE
26 INNOVATION HOUSING - PHASE II
27 SORORITY ROW
28 ROADEN UNIVERSITY CENTER RENOVATION / ADDITION
29 FOUNDATION HALL RENOVATION

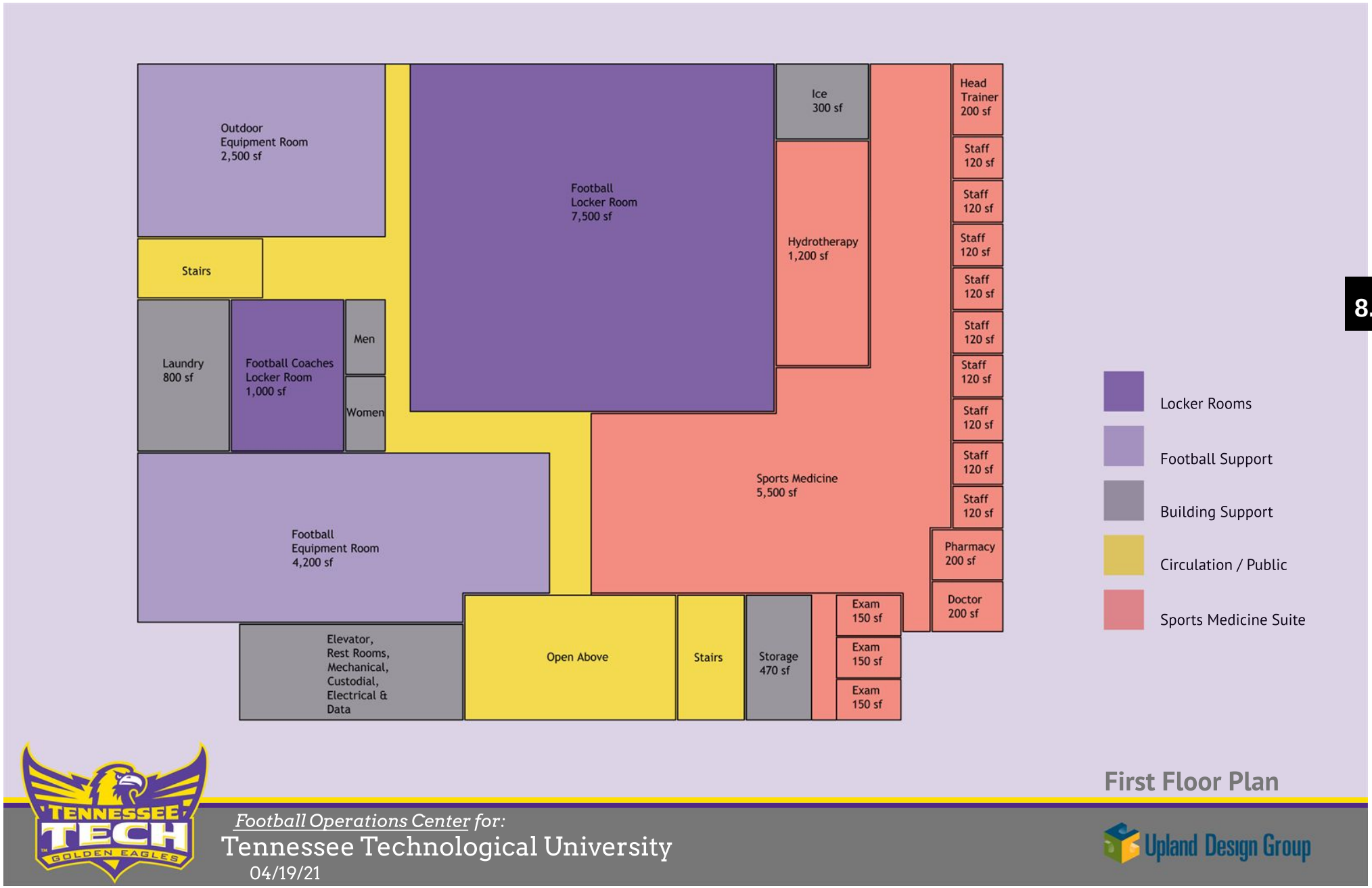
LEGEND

NEW BUILDING
RENOVATED BUILDING

Figure 3.28 12,000 Student Campus Master Plan

12,000 STUDENT CAMPUS MASTER PLAN


West 12th Avenue
Pine Avenue
New Parking
NORTH
Football Operations Center
Existing APC
New Parking
Existing Parking
TECH
TECH
Isometric View
Football Operations Center for:
Tennessee Technological University
04/19/21
TENNESSEE TECH
GOLDEN EAGLES
Upland Design Group



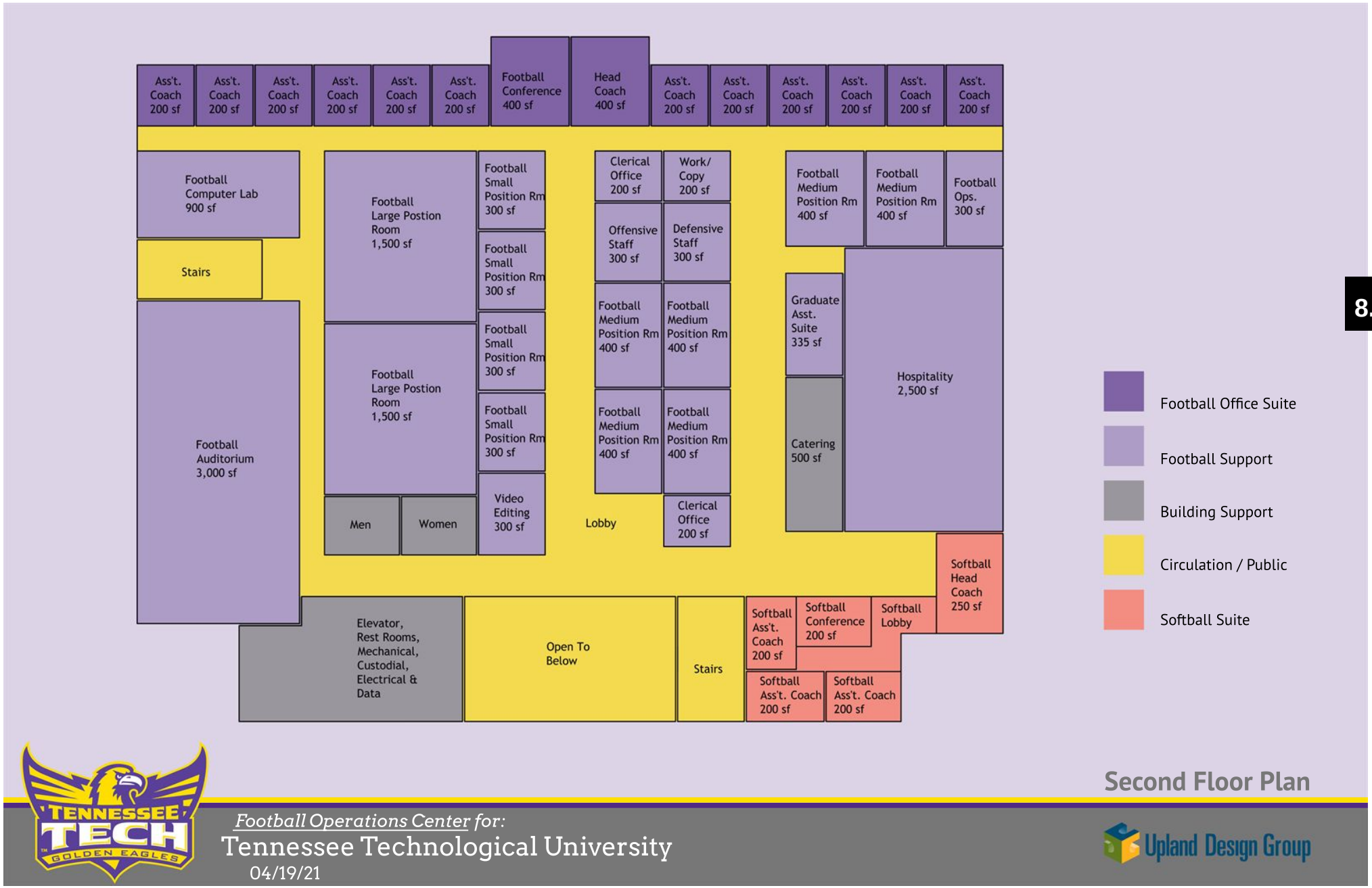
First Floor Plan

Football Operations Center for:

Tennessee Technological University

04/19/21

Upland Design Group



Second Floor Plan

Football Operations Center for:

Tennessee Technological University

04/19/21

Upland Design Group

8.4


Northeast Corner
Football Operations Center for:
Tennessee Technological University
04/19/21
Upland Design Group

8.4


Northwest Corner
Football Operations Center for:
Tennessee Technological University
04/19/21
Upland Design Group


Southeast Corner
Football Operations Center for:
Tennessee Technological University
04/19/21
Upland Design Group


Southwest Corner
Football Operations Center for:
Tennessee Technological University
04/19/21
Upland Design Group

Agenda Item Summary

Date: October 6, 2022

Agenda Item: Meeting Dates

10.1

☐ **Review** ☐ **Action** ☒ **No action required**

PRESENTERS: Chair Harper

PURPOSE & KEY POINTS: Announce the upcoming Board of Trustees' meeting dates:

Next Meeting: December 1, 2022

Calendar Year 2023:

March 9

June 22

September 28

November 30