

**Request for Authorization to Establish  
Bachelor of Science (BS) in Music Technology  
CIP 50.0913  
North Carolina State University**

**I. Program Highlights**

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- North Carolina State University proposes the establishment of a Bachelor of Science in Music Technology.
- This interdisciplinary program, offered by the Department of Music and with contributions from the Department of Electrical and Computer Engineering, will offer students a foundation of theoretical and practical skills in music, electrical or computer engineering, industrial design, and entrepreneurship.
- Students in this 120-credit hour program will complete a musicianship core, plus applied and ensemble study in music. The curriculum also includes an electrical and computer engineering core and a music technology core. Students can concentrate in one of two areas: electronics and circuits, or software and digital hardware. All students will complete a capstone project.
- Program graduates will be able to compete in this growing employment area in the music industry and apply skills gained in performance, computer music, sound synthesis, music production, software development, digital signal processing, music information retrieval, human-computer interaction, interactivity, robotic musicianship, multimedia, audio systems, and sound design.
- The B.S. in Music Technology at Georgia Institute of Technology (Georgia Tech) has the closest comparable curriculum to this planned program and prepares graduates to work in fields such as music and audio hardware design and manufacturing, music software and application development, music streaming services, consumer electronics, automotive audio, and immersive and multidimensional audio.

**II. Academic Program Planning Criteria (UNC Policy 400.1)**

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1. **Relation to Campus Distinctiveness and Mission.** The proposed program aligns with NC State's strategic goals to advance interdisciplinary education and builds upon historic strengths in engineering and entrepreneurship. The program also contributes to the UNC System's economic impact goals by filling a vital gap in the state's growing technology industry and strong arts economy.
2. **Student Demand.** According to recent Higher Education Arts Data Summary (HEADS) reports in Music, music technology programs continue to show a growth trajectory. A 28 percent increase in total student enrollments were observed by member institutions reporting to the National Association of Schools of Music (NASM) from 2017-18 to 2020-21. In 2020-21, a total of 37 institutions enrolled 1,300 undergraduate music technology students.
3. **Employment Opportunities for Graduates.** Numerous sources have consistently pointed to growing demand for graduates with skill sets similar to those in the proposed major.
  - A 2019 Burning Glass analysis of online job postings projected "explosive growth" (102 percent) within the next five years for graduates with music technology skills.
  - Georgia Tech's School of Music, which relied on Burning Glass data when planning their

music technology degree, cited that job postings requiring a bachelor's degree with core skills in music technology grew nationally by 225 percent at the time of their proposal. Georgia Tech currently average 75 enrolled majors each year.

- Industry leaders continue to cite a critical need for these skills, including:
  - Marcus Cremer, vice president of applied research at Gracenote, who seeks employees and interns with “strong technical background coupled with a deep understanding of music. Identifying, hiring, and retaining genuinely multi-talented individuals with this unique skill set has been both difficult and time-consuming for us.”
  - Tristan Jehan, director of research at Spotify and co-founder of The Echo Nest, who said, “It is terribly important to the future of Spotify...that we keep hiring and hosting the finest and brightest students in the field of music and technology. The growing and shifting music tech industry needs new talented developers that are well versed both in music and technology.”
- Georgia Tech reports a 94 percent employment rate for its music technology graduates within four months of graduation. The University of Miami reports that 90 percent of graduates secure post-graduate employment or graduate education plans within six months of degree completion.

- 4. Impact on Access and Affordability.** The proposed area represents a new area of study at NC State and is expected to attract a previously untapped applicant pool to the university. NC State is not requesting any program-specific fees or tuition differential for this program. Tuition and fees at 2022-23 full-time (12+ credit hour) rates would be as follows:

Full-Time Academic Year Degree Level Tuition and Fees per Year (In Dollars)

Category	Resident	Non-Resident
Tuition	6,535.00	14,138.00
Tuition Differential	NA	NA
Mandatory Fees (Athletics, Student Activities, Health Services, Educational & Technology, Campus Security, Debt Service, ASG)	2,593.26	1,296.63
Special Fees	NA	NA

- 5. Expected Quality.** With its historic strengths in engineering, technology, and entrepreneurship, NC State is well positioned to lead the nation in producing highly skilled music technology graduates.
- 6. Faculty Quality and Number.** This program will be supported by 13 existing faculty within the Department of Music, plus eight in the Department of Electrical and Computer Engineering, and one in the Department of Graphic and Industrial Design. Two additional music technology faculty will be hired by year two of the proposed program. Faculty from these large and nationally recognized departments will introduce students to the latest developments in this fast-developing field through classroom and research interactions. Of special note, NC State has ranked in the top 10 for electrical engineering in the global Shanghai Ranking for each of the last four years.
- 7. Relevant Lower-level and Cognate Programs.** In addition to the general education core, students in this program will complete a musicianship core, plus applied and ensemble study in music. The

curriculum also includes physics for engineers and scientists, an electrical and computer engineering core, and a music technology core. Students can concentrate in one of two areas: electronics and circuits, or software and digital hardware. All students will complete a capstone project.

- 8. Availability of Campus Resources (library, space, etc.)** In support of existing offerings, the university, college, and department have invested significantly in technology resources that will support the onset of the proposed program. Some investment in specialized equipment and technology will be required as the program develops. The proposed program is projected to have minimal impact on existing information technology and services for a decade or more.

The Department of Music is currently housed in two facilities on NC State's main campus. The Price Music Center provides three large ensemble rehearsal rooms (including one which doubles as a small recital space), 12 student practice rooms, two small ensemble rehearsal rooms, two applied teaching studios, instrument and library storage, and several faculty and administrative offices/teaching studios. The department also currently occupies the south wing of Broughton Hall which includes three fully equipped classrooms (including one 80-seat lecture hall), a digital piano lab, a 24-station computer lab/classroom, three digital audio workstation (DAW) studios, a piano teaching studio, and several faculty and administrative offices. The unit shares larger performance spaces, appropriate for ensembles, with the University Theatre and other programs through Arts NC State.

The NC State University libraries' current holdings are adequate for both the music and electrical and computer engineering cores of courses. In addition, the libraries are adequately resourced to provide reasonable and/or foreseeable materials that may become necessary over time with assistance from the Ellen Black Winston Endowment, which provides funds to enhance the Sanford R. Winston Music Collection. This endowment is broad enough in its intent to be used in support of the new degree, as well as continuing to support the existing courses offered in the department.

In addition, the Department of Music has a collaborative relationship with the libraries. The digital audio workstations (DAWs) have the same software and hardware as the 11 reservable DAWs available to students in the libraries. The department has also partnered with the libraries in support of its State of Sound program of collecting, sharing, and hosting events focused on music and other audio works and in offering our music technology summer camps. The libraries have made significant investments in music-related technologies that students can borrow through its extensive Technology Lending Service, a valuable resource for students in this new program.

- 9. Existing Programs (Number, Location, Mode of Delivery).** Currently, only one institution in the UNC System, the University of North Carolina at Asheville, offers a major in the most relevant CIP code (50.0913- Music Technology). The UNC Asheville program is campus-based.
- 10. Potential for Unnecessary Duplication.** The proposed program, while employing the same CIP code as the UNC Asheville program, differs in design and does not duplicate or compete. The major at UNC Asheville is focused on audio mixing, recording, and requires interdisciplinary study, predominantly in physics, with the intent of producing students who "learn how to professionally mix and record music." In contrast, NC State's proposed program focus is to integrate a broad range of musical styles, performance practices, and creative projects with the design,

development, and implementation of advanced music technologies, in close partnership with an engineering discipline.

- 11. Feasibility of Collaborative Program.** The curriculum of the proposed program is substantively different from the UNC Asheville program as to prohibit significant opportunities for collaboration.

### **III. Summary of Review Processes**

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- 1. Campus Review Process and Feedback.**

The proposal was reviewed by NC State faculty (department and college committees), Undergraduate Courses and Curriculum Committee (UCCC), Council of Deans, CFO, Provost, and Chancellor. Approval and support were provided at all levels.

- 2. UNC System Office Review Process and Feedback.** Throughout the review process, NC State provided relevant information pertaining to program requirements and resources. The institution submitted appropriate documentation and research to support the statements made.

### **IV. Recommendation**

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It is recommended that the Board of Governors approve NC State's request to establish the Bachelor of Science (BS) in Music Technology (CIP 50.0913).

**Request for Authorization to Establish  
Bachelor of Science (BS) in Human Health Sciences  
CIP 51.0000  
The University of North Carolina at Greensboro**

**I. Program Highlights**

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- The University of North Carolina at Greensboro proposes the establishment of a Bachelor of Science degree in Human Health Sciences (CIP 51.000).
- The degree will endow students with the knowledge and skills to join a rapidly growing allied health workforce and meet North Carolina's projected healthcare workforce needs. The curriculum, with an emphasis in interprofessional practice, qualifies graduates to work in allied health-related industries, health care, and entry level clinical and hospital positions. High-achieving graduates with a preprofessional focus will be prepared to be competitive applicants for professional programs in the allied health sciences such as physical therapy, occupational therapy, and speech pathology among others.
- UNC Greensboro (UNCG) as a public research university strives to make a difference in the lives of the students and communities for which it serves. One of the central foci of the UNCG Strategic Plan is health and wellness. A new undergraduate degree in human health sciences will contribute to student and community transformation by offering students the knowledge and skills to enter a rapidly expanding health-related workforce.
- Feedback notes that UNCG's entering students often seek a degree that expands opportunities to be competitive for employment in the health care field. The proposed degree program will prepare and retain students interested in health professions at UNCG.
- This degree is designed to prepare graduates 1) for success in entry-level allied health-related jobs, or 2) to be competitive applicants to allied health-related professional programs such as physician assistant, physical therapy, and occupational therapy. Examples of employment opportunities that students are trained and competitive for if they do not obtain additional degrees in allied health professions are: clinical research assistant, mobility specialist, clinical administrative assistant, orthopedic technician, health education/wellness specialist, patient financial counselor, health information technician, surgical technician, health and wellness coach, and work site wellness advocate.

**II. Academic Program Planning Criteria (UNC Policy 400.1)**

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1. **Relation to Campus Distinctiveness and Mission.** A unique area of distinction of the proposed program is the inclusion of coursework in interprofessional education (IPE). IPE has a goal of helping health care professionals come together collaboratively to improve patient care and outcomes. Graduates with a background in this practice have a distinct advantage when it comes to being hired and integrated into the healthcare environment.

The proposed program will impact the increasing diversity in health professions. Diversity in allied health fields i.e., "the lack of diversity in allied health fields" is proportionally low. Less than five percent of physical therapists, occupational therapists, speech-language pathologists, and audiologists are non-white. The UNCG School of Health and Human Sciences (HHS) student body consists of 56 percent students of color (2021) offering a significantly more diverse cohort of graduates to enter the allied health fields.

2. **Student Demand.** Students' commitment to health professions is evident by the number who express interest in pursuing careers in allied health immediately after graduation, and students who identify as "pre-professional" viewing undergraduate study as preparation for graduate/professional school in a range of disciplines. As previously noted, we have identified that many of our entering and existing students pursue a degree that expands opportunities to be competitive for employment in health care. There is a cohort of students who are interested in the health professions and/or are not successful being admitted to nursing that leave UNCG each year. Conversations with these students reveal a broad interest in allied health and helping professions and the proposed program will provide expanded opportunities for graduates to remain in health care professions.
3. **Employment Opportunities for Graduates.** Health care and social assistance is the largest service industry projecting to add the most jobs (+80,800) by 2028. Its projected annualized growth rate of 1.29 percent is over twice as much as the overall industry total. Furthermore, the expected public benefits for this program include preparing students to fill important workforce needs in the Triad area, across the state, and beyond. Graduates of this program will be prepared to enter this growing workforce and high achieving graduates can compete for graduate programs leading to advanced professional degrees. Locally, the HHS Dean and faculty have worked with Cone Health, the Triad's regional hospital system, to ensure that the curriculum meets the needs of the local healthcare workforce.
4. **Impact on Access and Affordability.** UNC Greensboro is not requesting any program-specific fees or tuition differential for this program. UNCG tuition and fees are some of the lowest for UNC System institutions and significantly less than peer institutions out-of-state, and private colleges/universities in-state.

Tuition and fees for the 2022-2023 AY full-time (12+ credit hour) rates are as follows:

Full-Time 2022-2023 Undergraduate Tuition and Fees per Year (In Dollars)

Category	Resident	Non-Resident
Tuition	4,422.00	19,581.00
Tuition Differential	--	--
Mandatory Fees (Athletics, Student Activities, Health Services, Educational & Technology, Campus Security, Debt Service, ASG)	3,076.00	3,076.00
Special Fees	--	--

5. **Expected Quality.** The proposed curriculum has a unique emphasis on interdisciplinary exploration and inter-professional engagement (IPE), which together offer specialized courses for both skill-building and knowledge acquisition. It is an increasingly important element of accredited programs in allied health fields like athletic training, dietetics, nursing, and others. Courses in IPE will help students practice these important skills communicating and collaborating with colleagues across a spectrum of health-related careers.

Part of the curriculum is built with flexibility that enables students to identify their area of focus and deepen their knowledge and understanding through minor areas or by completing required prerequisites for advanced degrees. Students who plan post-baccalaureate study will select the

health professions concentration that includes advanced science courses tailored to specific professional goals, i.e., competitive for professional programs such as physician assistant, physical therapy, occupational therapy among others. Students with an interest in broader health careers upon graduation will select the allied health studies concentration.

6. **Faculty Quality and Number.** A program director/tenure track faculty member, would be hired for the 2023-24 AY to prepare for admission of the first class in the 2024-25 AY. Based on our enrollment estimates, an additional non-tenured faculty member would be hired for the 2024-25 AY to teach core courses and advise students. Additional enrollment growth in years three to five would require additional faculty hires. A dedicated internship coordinator/academic advisor position would be requested by spring 2025, if enrollment supports.
7. **Relevant Lower-level and Cognate Programs.** The HHS curriculum is designed to help students explore a range of potential allied health careers as first and second year students. Second- and third-year students will be introduced to and learn to apply principles of interprofessional practice, which encompass skills critical to a collaborative health care environment. Students will also complete at least one course in each of the undergraduate departments in the School of Health and Human Sciences. By the time students reach 60 credits, they will select a concentration area.
8. **Availability of Campus Resources (library, space, etc.)** Faculty and administrative staff are likely to be housed in newly renovated offices in space allocated to the School of Health and Human Sciences in the Moore Building. Therefore, no additional funds are required for repair and renovation or new construction.
9. **Existing Programs (Number, Location, Mode of Delivery).** There is one similar program within the UNC System at Western Carolina University, Cullowhee, NC, main campus program.
10. **Potential for Unnecessary Duplication.** UNCG's tradition of strength in health and wellness and our relationships with health and wellness industries and organizations within our region positions our students to gain workforce and community experiences, which will prepare them for work and/or further study in the health professions. Additionally, the catchment areas of the two institutions are non-overlapping, suggesting they will each largely draw primarily from different groups of students.

### III. Summary of Review Processes

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1. **Campus Review Process and Feedback.** A committee was created to develop a preliminary curriculum and to review and seek input from faculty in the school. The chairs of this committee held multiple open school meetings and individual department meetings. The curriculum was reviewed by the HHS Curriculum Committee, which was approved and forwarded to the University Curriculum Committee for final approval. The proposal was also reviewed by the dean, provost, chief financial officer, and chancellor. Approval and support were provided at all levels.
2. **UNC System Office Review Process and Feedback.** Throughout the review process, UNC Greensboro provided relevant information pertaining to program requirements and resources. The institution submitted appropriate documentation and research to support the statements made.

**IV. Recommendation**

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It is recommended that the Board of Governors approve UNC Greensboro's request to establish the Bachelor of Science in Health and Human Sciences (CIP 51.000) effective fall 2024.



**Request for Authorization to Discontinue and/or Consolidate  
Academic Degree Programs**

**North Carolina State University – Master's in Agricultural and Resource Economics (M)  
(CIP 01.0103)**

**Overview:** The Master's in Agricultural and Resource Economics (01.0103) at the North Carolina State University will be discontinued effective fall 2022. The request to discontinue delivery of the degree program was approved by the head of the program, appropriate institutional committees, and chief academic officer.

The UNC Academic Program Inventory lists the Master's in Agricultural and Resource Economics as active. However, no record of the program exists in the North Carolina State University Student Information System. This discontinuation action will reconcile the discrepancy. No students, faculty, or staff members will be affected by the discontinuation of the program.

**Recommendation:** The recommendation is that the Board of Governors approve NC State's request to discontinue the delivery of the Master's in Agricultural and Resource Economics (01.0103) effective fall 2022.

## APPENDIX G

### **Request for Authorization to Discontinue and/or Consolidate Academic Degree Programs**

#### **North Carolina State University – Master’s in Mechanical Engineering (M) (CIP 14.1901)**

**Overview:** The Master’s in Mechanical Engineering (14.1901) at the North Carolina State University will be discontinued effective fall 2022. The request to discontinue delivery of the degree program was approved by the head of the program, appropriate institutional committees, and chief academic officer.

The Master’s in Mechanical Engineering has been effectively inactive in the North Carolina State University Student Information System since 2009. However, the UNC System Academic Program Inventory lists the program as active. This discontinuation action will reconcile the discrepancy. No students, faculty, or staff members will be affected by the discontinuation of the program.

**Recommendation:** The recommendation is that the Board of Governors approve NC State’s request to discontinue the delivery of the Master’s in Mechanical Engineering (14.1901) effective fall 2022.

**Request for Authorization to Discontinue and/or Consolidate  
Academic Degree Programs**

**North Carolina State University – Master of Education in Educational Administration  
and Supervision (MED)  
(CIP 13.0499)**

**Overview:** The Master of Education in Educational Administration and Supervision (13.0499) at the North Carolina State University will be discontinued effective fall 2022. The request to discontinue delivery of the degree program was approved by the head of the program, appropriate institutional committees, and chief academic officer.

The Master of Education in Educational Administration and Supervision has been effectively inactive in the North Carolina State University Student Information System since 1996. The UNC System Academic Program Inventory lists the program as active. This discontinuation action will reconcile the discrepancy. No students, faculty, or staff members will be affected by the discontinuation of the program.

**Recommendation:** The recommendation is that the Board of Governors approve NC State's request to discontinue the delivery of the Master of Education in Educational Administration and Supervision (13.0499) effective fall 2022.

**Request for Authorization to Discontinue and/or Consolidate  
Academic Degree Programs**

**North Carolina State University – Master of Science in Educational Administration  
and Supervision (MS)  
(CIP 13.0499)**

**Overview:** The Master of Science in Educational Administration and Supervision (13.0499) at North Carolina State University will be discontinued effective fall 2022. The request to discontinue delivery of the degree program was approved by the head of the program, appropriate institutional committees, and chief academic officer.

The Master of Science in Educational Administration and Supervision has been inactive in the North Carolina State University Student Information System since 1996. The UNC System Academic Program Inventory lists the program as active. This discontinuation action will reconcile the discrepancy. No students, faculty, or staff members will be affected by the discontinuation of the program.

**Recommendation:** The recommendation is that the Board of Governors approve NC State's request to discontinue the delivery of the Master of Science in Educational Administration and Supervision (13.0499) effective fall 2022.