Music Technology (BS)

Music technologists are the architects of tomorrow's soundscapes. Standing at the intersection of art and engineering, these innovators are revolutionizing the way we create, experience, and interact with audio. This dynamic field empowers a new breed of engineer to design the cutting-edge hardware and software that power the industry. From the studio to the stage, music technologists leverage breakthroughs by harnessing the power of advanced engineering tools, such as CAD, Acoustic Modeling, Transducer Design, Computer Programming, System Design, and Artificial Intelligence. They don't just build tools—they engineer and redefine the music and audio industry.

Core Courses

The undergraduate major in Music Technology is an interdisciplinary program that provides a foundation of theoretical and practical skills in music and electrical and computer engineering to prepare students to design, develop, and implement advanced music technologies. In addition to a variety of supporting courses, it has three primary components: a musicianship core (26 hours including applied and ensemble study); an engineering core (35 hours including calculus and physics); and a music technology core (19 hours). All students will complete a two-semester senior design project.

Musicianship Core

This is where students develop their artistry and musicianship on their instrument. Students take required courses in music theory, aural skills, class piano, music industry, and music history. In parallel, students focus on performance through their applied instruction and participation in ensembles that culminates in a final recital. This provides students a depth of musical knowledge that aids their engineering of useful and practical technology for music.

Electrical & Computer Engineering Core

Students gain the fundamental math, physics, and engineering skills through a core of electrical and computer engineering courses in circuits, digital logic, and programming. This allows them to concentrate on a specific area of engineering in hardware design, embedded systems, digital signal processing, or computer programming.

Music Technology Core

This is the convergence point where science meets sound. Here, students fuse a mastery of acoustics, psychoacoustics, and professional recording with the rigorous principles of modern engineering. By grounding their skills in the science of how we hear and mix audio, students unlock the freedom to dive deep into analog and digital electronics—designing the complex systems that power the industry.

Contact Person

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Plan Requirements

Code	Title	Hours
Musicianship Core [1]		
MUS 103	Theory and Musicianship I	3
MUS 104	Theory and Musicianship Lab I	1
MUS 107	Keyboard Skills I	1
MUS 153	Theory and Musicianship II	3
MUS 154	Theory and Musicianship Lab II	1
MUS 200	Understanding Music: Global Perspectives	3
MUS 203	Theory and Musicianship III	3
MUS 204	Theory and Musicianship Lab III	1
MUS 207	Keyboard Skills II	1
Applied Study [1]		
MUS 193	Applied Music Lessons I (2 Semesters)	2
MUS 293	Applied Music Lessons II (2 Semesters)	2
MUS 393	Recital	1
Ensemble Study [1]		
Four Semesters of approved ensemble from:		4
MUS 111	University Singers	
MUS 112	Tenor-Bass Choir	
MUS 113	Women's Choir	
MUS 115	State Chorale	
MUS 121	Raleigh Civic Symphony	
MUS 122	Raleigh Civic Chamber Orchestra	
MUS 134	Wind Ensemble	
MUS 135	Symphonic Band	
MUS 136	Beginning Band	
MUS 141	Jazz Combo II	
MUS 142	Jazz Lab Band	
MUS 143	Jazz Combo I	
MUS 144	Jazz Orchestra	
Additional Study [1]		
MUS 240	Introduction to the Music Industry	3
MUS 340	From Wax Cylinders to AI: Music Technology in Modern History	3
EMA 370	Practical Arts Entrepreneurship	3
D 100	Design Inquiry I: Methods and Processes	3
Math and Science [1]		
MA 141	Calculus I	4
MA 241	Calculus II	4
PY 205	Physics for Engineers and Scientists I	4
PY 208	Physics for Engineers and Scientists II	4
Electrical & Computer Engineering Core [1]		
ECE 109	Introduction to Computer Systems	3
ECE 200	Introduction to Signals, Circuits and Systems	4
ECE 209	Computer Systems Programming	3
ECE 212	Fundamentals of Logic Design	3
ECE 220	Analytical Foundations of Electrical and Computer Engineering	3
Music Technology Core [1]		
MUT 303	Introduction to Audio Technology I	3
MUT 304	Introduction to Audio Technology II	3

MUT 315	Music Acoustics & Psychoacoustics	3
MUT 316	Music Acoustics & Psychoacoustics Lab	1
MUT 403	Music Recording & Mixing	3
MUT 431	Music Technology I	3
MUT 432	Music Technology II	3
Capstone [1]		
MUT 461	Music Technology Senior Project I	3
MUT 462	Music Technology Senior Project II	3
Electronics and Circuits Concentration [1]		
Pick one of the following courses:		3
ECE 301	Linear Systems	
ECE 302	Microelectronics	
ECE 306	Introduction to Embedded Systems	
ECE 309	Data Structures and Object-Oriented Programming for Electrical and Computer Engineers	
ECE 310	Design of Complex Digital Systems	
GEP Courses		
ENG 101	Academic Writing and Research	4
GEP Humanities (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6
GEP Social Sciences (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		6
GEP Elective (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Health and Exercise Studies (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		2
GEP Foundations of American Democracy (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/)		
GEP Global Knowledge (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/)		
Free Elective		1
Total Hours		**120**

[1] C- or better required

First Year

Fall Semester		**Hours**
MUS 103	Theory and Musicianship I	3
MUS 104	Theory and Musicianship Lab I	1
MUS 107	Keyboard Skills I	1
MA 141	Calculus I [1]	4
ENG 101	Academic Writing and Research	4
PY 205	Physics for Engineers and Scientists I	4
	Hours	**17**
Spring Semester		
MUS 153	Theory and Musicianship II	3
MUS 154	Theory and Musicianship Lab II	1
MUS 207	Keyboard Skills II	1
MUS 193	Applied Music Lessons I	1
MA 241	Calculus II	4
ECE 109	Introduction to Computer Systems [1]	3
PY 208	Physics for Engineers and Scientists II	4
	Hours	**17**

Second Year

Fall Semester		
MUS 203	Theory and Musicianship III	3
MUS 204	Theory and Musicianship Lab III	1
D 100	Design Inquiry I: Methods and Processes	3
Approved Ensemble		1
MUT 315	Music Acoustics & Psychoacoustics	3
MUT 316	Music Acoustics & Psychoacoustics Lab	1
ECE 200	Introduction to Signals, Circuits and Systems	4
	Hours	**16**
Spring Semester		
MUS 200	Understanding Music: Global Perspectives	3
ECE 212	Fundamentals of Logic Design	3
ECE 220	Analytical Foundations of Electrical and Computer Engineering	3
Approved Ensemble		1
MUS 193	Applied Music Lessons I	1
MUT 403	Music Recording & Mixing	3
GEP Health and Exercise Studies (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**15**

Third Year

Fall Semester		
MUS 240	Introduction to the Music Industry	3
MUT 303	Introduction to Audio Technology I	3
ECE 209	Computer Systems Programming	3
EMA 370	Practical Arts Entrepreneurship	3
GEP Health and Exercise Studies (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
Approved Ensemble		1
MUS 293	Applied Music Lessons II	1
	Hours	**15**
Spring Semester		
MUS 340	From Wax Cylinders to AI: Music Technology in Modern History	3
MUT 304	Introduction to Audio Technology II	3
ECE Concentration (301, 302, 306, 309, 310)		3
GEP Requirement (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)s		3
Approved Ensemble		1
	Hours	**13**

Fourth Year

Fall Semester		
MUT 461	Music Technology Senior Project I	3
MUT 431	Music Technology I	3
MUS 293	Applied Music Lessons II	1
GEP Requirement (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3

GEP Requirement (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
Free Elective		1
	Hours	**14**
Spring Semester		
MUT 462	Music Technology Senior Project II	3
MUT 432	Music Technology II	3
MUS 393	Recital	1
GEP Requirement (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Requirement (https://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
	Hours	**13**
	Total Hours	**120**

Career Opportunities

Career Titles

- Audio and Video Technician
- Disc Jockey
- Entertainer and Performer
- Film and Video Editor
- Music Composer
- Music Director
- Music Producer
- Musician
- Sound Engineering Technician

Learn More About Careers

NCcareers.org (https://nccareers.org/)
Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (https://www.bls.gov/ooh/)
Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics. You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (https://www.careeronestop.org/)
View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation. Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (https://careers.dasa.ncsu.edu/explore-careers/career-assessments/) (NC State student email address required)
This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (https://careers.dasa.ncsu.edu/about/hours-appointments/) to discuss the results.

Focus 2 Apply Assessment (https://www.focus2career.com/Portal/Register.cfm?SID=1929) (Available to prospective students)
A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.