

Music Technology (BS): Software & Digital Hardware

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 (29 hours including applied and ensemble study); an engineering core (26 hours including calculus and physics); and a music technology core (18 hours). All students will complete a two-semester senior design project.

Students pursuing the Software and Digital Hardware concentration will take an additional 9 hours of engineering courses focusing on the design of computing systems.

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
MUS 253	Theory and Musicianship IV	3
MUS 254	Theory and Musicianship Lab IV	1
Applied Study ¹		
MUS 193	Applied Music Lessons I (2 Semesters)	2
MUS 293	Applied Music Lessons II (2 Semesters)	2
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

EMA 110	Introduction to 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 & PY 206	Physics for Engineers and Scientists I and Physics for Engineers and Scientists I Laboratory	4
PY 208 & PY 209	Physics for Engineers and Scientists II and Physics for Engineers and Scientists II Laboratory	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
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 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
Software & Digital Hardware Concentration ¹		
ECE 212	Fundamentals of Logic Design	3
Choose two of the following:		6
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 (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		6
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		2
GEP Foundations of American Democracy (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/) (verify requirement)		
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/) (verify requirement)		
Free Elective		2
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
MUS 193	Applied Music Lessons I	1
Approved Ensemble		1
MA 141	Calculus I ¹	4
ENG 101	Academic Writing and Research	4
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
Hours		16

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
Approved Ensemble		1
MA 241	Calculus II	4
PY 205 & PY 206	Physics for Engineers and Scientists I and Physics for Engineers and Scientists I Laboratory ¹	4
ECE 109	Introduction to Computer Systems ¹	3
Hours		18

Second Year

Fall Semester		
MUS 203	Theory and Musicianship III	3
MUS 204	Theory and Musicianship Lab III	1
MUS 293	Applied Music Lessons II	1
Approved Ensemble		1
PY 208 & PY 209	Physics for Engineers and Scientists II and Physics for Engineers and Scientists II Laboratory ¹	4
ECE 209	Computer Systems Programming ¹	3
MUT 303	Introduction to Audio Technology I	3
Hours		16

Spring Semester

MUS 200	Understanding Music: Global Perspectives	3
MUS 253	Theory and Musicianship IV	3
MUS 254	Theory and Musicianship Lab IV	1
MUS 293	Applied Music Lessons II	1
ECE 200	Introduction to Signals, Circuits and Systems ²	4
MUT 304	Introduction to Audio Technology II	3
D 100	Design Inquiry I: Methods and Processes	3
Hours		18

Third Year

Fall Semester		
MUS 240	Introduction to the Music Industry	3
Approved Ensemble		1
ECE 212	Fundamentals of Logic Design ²	3
MUT 403	Music Recording & Mixing	3

MUT 431	Music Technology I	3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1

Hours **14**

Spring Semester

EMA 110	Introduction to Arts Entrepreneurship	3
MUT 432	Music Technology II	3
ECE 3** Software & Digital Hardware Elective		3
GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)s		3
Free Elective		2

Hours **14**

Fourth Year

Fall Semester		
MUT 461	Music Technology Senior Project I	3
ECE 3&& Software & Digital Hardware Elective		3
GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3

Hours **12**

Spring Semester

MUT 462	Music Technology Senior Project II	3
MUT 315	Music Acoustics & Psychoacoustics	3
GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3

Hours **12**

Total Hours **120**

Career Opportunities

Career Titles

- Audio and Video Technician
- Audiovisual Equipment Installer and Repairer
- Broadcast Technician
- Composer
- Music Director
- Music Producer
- Sound Engineer

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.