MUSICAL AUDIO ENGINEERING, BS

The Musical Audio Engineering degree program is designed to prepare students for the broadest spectrum of recording studio operations; the equipment used in recording studios; live recording environments; in-depth understanding of equipment design, maintenance, and operations; and detailed knowledge of signal processing for audio applications. Graduates of this program will not only be able to operate audio equipment, but they will be able to design audio equipment as skilled musicians. This unique program includes basic courses in mathematics and physical sciences, broadening courses in humanities and social sciences, foundation courses in electrical engineering, and music courses as well as musical performance.

Program Educational Objectives

The Program Educational Objectives for the B.S. in Musical Audio Engineering are:

- Graduates will excel in engineering careers and/or postgraduate education utilizing knowledge of Musical Audio Engineering disciplines and underlying fundamental principles of science and mathematics, engineering analysis, problem solving, and design;
- Graduates will expand their knowledge of current and emerging issues in Musical Audio Engineering and continue career-long professional development through engagement in lifelong learning;
- Graduates will grow professionally and advance throughout their engineering careers utilizing skills in effective communication; responsible, multidisciplinary teamwork, and adherence to principles of professional accountability and ethics.

Student Outcomes

Graduates of the Musical Audio Engineering program will have:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
2. An ability to apply engineering design to produce solutions that meet specific needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
3. An ability to communicate effectively with a range of audiences;
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies;
8. An ability to solve mathematics problems in probability, statistics, differential equations, linear algebra, complex variables, and discrete mathematics as they relate to problems in Musical Audio Engineering.

The overall goal of the Musical Audio Engineering program is to prepare students for engineering careers within the audio processing and recording discipline. This unique program includes basic courses in mathematics and physical sciences, broadening courses in humanities and social sciences, foundation courses in electrical engineering, and music courses as well as musical performance.

To participate in this program, students must be accepted into both the School of Music and the College of Engineering. More information can be found on the College of Engineering's Musical Audio Engineering website, the School of Music's Musical Audio Engineering website, and audition requirements can be found here.

Click here for details regarding the College of Engineering policy for repeating courses.

Click here for details regarding the College of Engineering Residency policy.

Credit hour substitutions for a course must come from a course within the same discipline (for example, a CS hour must be used to substitute for a missing CS hour). The course used as substitution cannot be used for any other Musical Audio Engineering program requirement. This is accomplished through a petition to the ECE Department.

Click here for details regarding The University of Alabama's policy on auditing courses.

Freshman

Fall	Hours	Spring	Hours
MUS 308	3	PH 105	4
MATH 125	4	MATH 126	4
EN 101	3	EN 102	3
MUS 115	4	MUS 340	3
MUA 1xx Secondary Instrument	1	MUA 1xx Secondary Instrument	1
MUA 121	1	MUA 122	1
MUA 010	0	MUA 010	0
	16		**16**

Sophomore

Fall	Hours	Spring	Hours
PH 106	4	MUA 2xx Secondary Instrument	1
MATH 227	4	MATH 237	3
MATH 238	3	ECE 225	4
CS 100	4	ECE 380	4
MUA 2xx Secondary Instrument	1	MUS 341	3
MUA 123	1	MUA 124	1
	17		**16**

Junior

Fall	Hours	Spring	Hours
MUS 250	3	HU/L/FA Elective[1,2]	3
ECE 370	3	ECE 327	3
ECE 332	4	ECE 333	4
ECE 383	4	MUA 399	1
MUS 430	2	MUS 430	3
MUA 010	0	MUA 010	0
	16		**14**

Senior

Fall	Hours	Spring	Hours
HI/SB Elective[1,2]	3	HI/SB Elective[1,2]	3
HI/SB Elective[1,2]	3	ECE 4XX Elective	3
HU/L/FA Elective[1,2]	3	MUA Ensemble	1
MUA Ensemble	1	MUS 430	2
MUS 430	3	MUS 3xx/4xx Elective	3
MUS 351	2	MUA 499	1
MUA 010	0		
	15		**13**

Total Hours: 123

Footnotes

1. Students must satisfy the College of Engineering in-depth requirement (minimum of six hours in one discipline).
2. The College of Engineering core curriculum requires a minimum of: nine hours of HU, L, or FA courses (these 9 hours includes MUS 250); nine hours of HI or SB courses; six hours of FC courses; six hours of W courses (300- and 400-level ECE courses); 12 hours of N courses (eight hours of calculus-based physics); 12 hours of MA courses (MATH 125 Calculus I or higher); and six hours of C or FL courses.

Musical Audio Engineering graduates are prepared for careers within the audio processing and recording industries.

Types of Jobs Accepted

Musical Audio Engineering graduates have opportunities in recording studio operations; live recording environments; and the design, fabrication, operation, and maintenance of recording equipment.