Curriculum Guide

BA in Audio Arts and Technology

2024-2025

Audio Arts and Technology at the University of Rochester

The program in Audio Arts and Technology (AAT) provides students with the creative and expressive abilities and technical skills to build productive careers in many fields in which sound and audio are central. This includes music recording and media production, sound design for media and games, live event support, broadcasting, acoustic analysis and design of the built and natural environments, consumer product design and development, and areas ranging from healthcare to law. The program offers a high degree of flexibility to enable students to combine studies in Audio Arts and Technology with Music, Business and Economics, Media Studies, Studio Arts, English and Film Studies, Biology, Psychology, and many other areas that intersect the field of sound and audio.
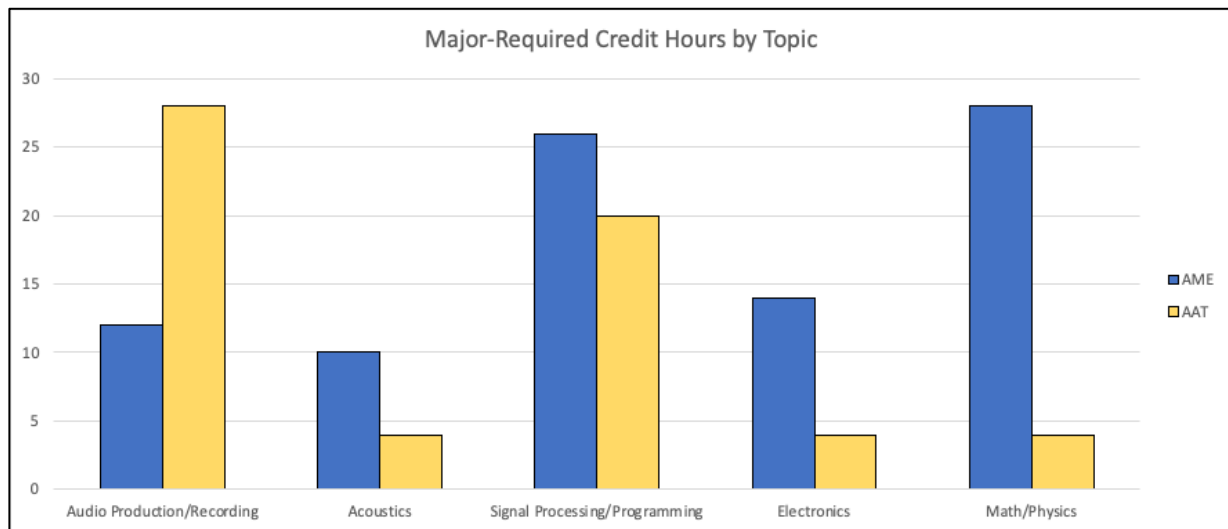
This document provides a summary of the course requirements and other regulations for the BA program in Audio Arts and Technology including a typical student schedule for their four years of studies.

Should I major in Audio Arts and Technology or Audio and Music Engineering?

The BA program in Audio Arts and Technology is a new program that was approved by New York State in July 2023. Graduates are awarded the Bachelor of Arts Degree in Audio Arts and Technology. The AAT program has a less technical curriculum than the UR's Audio and Music Engineering (AME) program. AAT studies provide a solid technical foundation to enable students to focus on developing their creative and analytical abilities in the medium of sound and audio. The AAT curriculum offers a high degree of flexibility allowing students to combine their AAT studies with complementary areas such as music, theater, business, and others.

Students interested in more technical areas of audio engineering leading to careers in audio technology development and research can follow the Audio and Music Engineering (AME) curriculum, which includes significantly more technical coursework in mathematics, physics and acoustics, electronics, and digital signal processing. The AME program is registered with the New York State Education Department as a professional engineering program and it is accredited by the Accreditation Board for Engineering and Technology (ABET), which allows AME graduates to pursue licensure as a professional engineer. The BA in AAT is not registered as a professional engineering program and is not a path to professional licensure.

Below is a helpful chart detailing how AME and AAT differ in their course requirements by topic.

For Inquiries, Questions, and Assistance

Your primary point of contact and source of information for the AAT major is our Undergraduate Program Coordinator, Ms. Barbara Dick. Barbara can provide information and answer questions about requirements for the major and she can assist in completion of program planning forms, and with registration each semester.

Ms. Barbara A. Dick
Office: CSB 510
Phone: (585) 275-5719
Email: barbara.dick@rochester.edu

Declared and prospective AAT majors also will be assigned a primary faculty advisor from the AAT/AME Faculty. At a minimum, you should meet with your faculty advisor once every semester, prior to registration for the following term, to go over schedule planning and course selections.

Other questions and matters may be brought to the AAT Program Chair,
Prof. Mark F. Bocko
Office: CSB 709
Phone: (585) 275-4879
Email: mark.bocko@rochester.edu

Program Overview

The BA AAT program requires 54 credit hours in the major, including a 2-credit upper-level writing course, either WRTG277 or WRTG273. All students in The College also must complete the primary writing requirement, WRTG105, typically taken in their first year of studies. The balance of the 128 credit hours required for graduation also must include two clusters, one in the Humanities and one in a Social Science.

Admission to the AAT Major

Students wishing to declare a major in Audio Arts and Technology must file a completed "AAT Curriculum Planning Form" along with the "Concentration Approval Form". See the AAT Program Coordinator to obtain these forms.

For admission to the AAT major, students must complete AME 140, AME 141, AME 191, and AME193 with a minimum cumulative GPA of 2.0. Students also must complete the primary writing requirement (WRTG105), the mathematics requirement (typically MTH161), and the required programming course (typically ECE114) before formal admission to the AAT major. The requirements for formal admission to the AAT major typically should be met by the end of the fourth semester of study.

Students may not be admitted to the major if they are on academic probation in the College. Students who have not completed all the requirements for admission to the AAT major by the end of their sophomore year may qualify for conditional admission to the program by submitting a petition form available from the AAT Undergraduate Coordinator. Typically, this

happens when a student has changed their intended major or transferred from another institution of higher education. The petition must present a realistic plan, approved by the student's faculty advisor, for completion of all AAT program admission requirements within one calendar year.

Only the Administrative Committee of the Hajim School of Engineering and Applied Sciences can grant exceptions to the general degree requirements published in the Official Bulletin of the University. Petition forms for Administrative Committee consideration may be obtained from the AAT Program Coordinator.

Cluster Requirement

Students must complete 2 clusters, one in the Humanities and one in a Social Science. Please refer to the University webpage for Cluster regulations and a link to the Cluster Search Engine. https://www.rochester.edu/college/ccas/undergraduate/curriculum/clusters.html

Math and Computing Requirement

One course in Calculus is required for the AAT major. Depending upon your placement by the Math Department, this course may be MTH161, MTH171, or MTH141. For students with AP math credit and placement in MTH162 or higher, the requirement is automatically satisfied. However, in such cases students should take either an additional math course or an advanced elective course from the list of upper-level AAT Elective or A&S Elective courses in the Program Summary below to bring the total number of credit hours in the major to 54.

One course in computer programming is required. It is highly recommended that students complete ECE114 Intro to C/C++ Programming, which is prerequisite to the Audio Software Design Courses, AME262 or AME264 (Audio Software Design I & II). The computer programming requirement also may be satisfied by completing CSC161, however students should contact the AME262/AME264 instructor to demonstrate their familiarity with the C and C++ programming languages before taking these courses.

Capstone Project

Completion of a Capstone Project, AME385, is required for graduation. Projects will be of the students' choosing in consultation with an AME385 advisor. Typically, the capstone project will be completed in the Senior year.

Instructor permission is required to register for AME385. The instructor you choose as advisor to your project will depend on your project proposal. They will require successful completion of a series of courses that reflect your gained knowledge in the subject of your project.

Liberal Arts and Sciences Credit Hour Requirement

It is a New York State requirement that programs granting the Bachelor of Arts degree must include a minimum of 90 credit hours in Liberal Arts and Sciences (LAS), which includes Humanities, Social Science, Mathematics, and the Sciences, but not Engineering and Business courses, which are considered pre-professional studies unless they are cross listed in a LAS discipline. For example, some Business courses are cross listed in Economics, and some Engineering courses are cross listed in Physics and other LAS disciplines. Students should keep

this requirement in mind when selecting their free electives. The following table is provided to help students keep track of their free-elective course selections.

Liberal Arts and Sciences Credit Requirement					
LAS Requirement	90	Cr	Graduation Req	128	cr
LAS Credits in AAT Major Req's	22		AAT Major req	54	
Primary Writing WRTG105	4		Prim Writing WRTG105	4	
LAS credits in two req. Clusters	24		Clusters	24	
Balance of LAS Credits needed	**40**		**Free Electives**	**46**	
AAT Major required courses counted as LAS Credits					
MTH161	4				
AME191	4				
WRTG273/WRTG277	2				
A&S Adv Elec 1	4				
A&S Adv Elec 2	4				
AME385	4				
Total	**22**				

To summarize, after completing the AAT major, Primary Writing course, and two clusters, a total of 46 free elective credits remains. To satisfy the LAS requirement, 40 of the 46 credit hours must be taken in LAS disciplines. For students completing a double major in areas such as Music (including Eastman Students), Mathematics, the Sciences, Humanities, or Social Sciences, the courses required by those majors automatically will satisfy the LAS credit requirement. However, students completing a double major combining AAT with Engineering, Computer Science, or Business must be mindful of the LAS requirement.

Program Summary - BA in Audio Arts & Technology

	Course #	Description	Credits
Math/Programming	MTH 161	Calculus 1 *(see note a)*	**4**
	ECE 114	Intro to C/C++ Programming *(b)*	**4**
Primary Writing	WRTG 105	Reasoning and Writing	**4**
Pre-Major Requirements	AME 140	Intro to Audio and Music Engineering	**4**
	AME 141	Fundamentals of Digital Audio	**4**
	AME 191	Art and Technology of Recording	**4**
	AME 193	Sound Design	**4**
AME Elective Courses	AME 196	Interactive Computer Music	
Choose 4 Courses (16 Cr)	AME 227	Podcasting History: Hear UR (H - Cross-listed as HIST 227)	
	AME 240	Revolutions in Sound	
	AME 242	Listening and Audio Production	
	AME 244	Audio for Visual Media	
	AME 247	Audio for Gaming	
	AME 262	Audio Software Design I *(c)*	
	AME 264	Audio Software Design II *(c)*	
		Minimum of Four Courses from the Above List	**16**
Arts and Science Elective Courses	ENGL 255	Film History: Early Cinema (H)	
choose 2 (8 Cr) from list	ENGL 259	Popular Film Genres (H)	
	ENGL 260	Film History: 1989–Present (H)	
	ENGL 261	Film Theory (H)	
	FMST 161	Introduction to Video Art (H)	
	MUSC 101	Elements of Music (H)	
	MUSC 110	Intro to Music Theory (H)	
	MUSC 111	Theory 1 (H)	
	MUSC 134	Style & Genres: Introduction to Music History (H)	
	MUSC 162	Music and the Mind (H)	
	SART 151	New Media and Emerging Practice 1 (H)	
	SART 153	Introduction to Sound Art	
		Minimum of Two Courses from the Above	**8**
Upper Level Writing	WRTG 273 or WRTG	Communicating Your Professional Identity *(d)*	**2**
Capstone Project	AME 385	Capstone Project in Audio Arts and Technology *(e)*	**4**
Clusters	Two required - One in Humanities & One in a Social Science		**24**
Elective Courses	Must include at least 40 credits in Liberal Arts and Sciences (LAS)		**46**
Total in Major			**54**
Total in Degree			**128**

Notes

a) MTH141 or MTH171 may be substituted according to Math Dept. placement, if placement is in MTH162 or
higher, the requirement is satisfied but an additional 4 credits from the AME and A&S courses must be completed

b) CSC161 may be substituted for ECE114, but note that familiarity with C/C++ programming taught in ECE114
is needed to prepare for the elective course AME 262 and AME 264.

c) Requires ECE 114 as prerequisite

d) Students may substitute WRTG273 - Communicating Your Professional Identity

e) The Capstone project (AME 385) may be completed prior to completion of all major elective courses, but it is
expected that appropriate advanced coursework will be completed prior to taking AME 385
and instructor/advisor permission is approved

Audio Arts & Technology (AAT) Course Schedule
REV 09/23/2024

CORE CURRICULUM

MATH & PROGRAMMING

MTH 161	Calc I	4
ECE 114	Intro to C/C++ Programming	4

AME REQUIREMENTS

AME 140	Intro to Audio and Music Engineering	4
AME 141	Fundamentals of Digital Audio	4
AME 191	Art and Technology of Recording	4
AME 193	Sound Design	4
AME 385	Capstone Project	4

AME ELECTIVES (Choose a minimum of four Courses - 16 credits)

AME 196	Interactive Computer Music	4
AME 227	Podcasting History: Hear UR	4
AME 240	Revolutions in Sound	4
AME 242	Listening and Audio Production	4
AME 244	Audio for Visual Media	4
AME 247	Audio for Gaming	4
AME 262	Audio Software Design I	4
AME 264	Audio Software Design II	4

AS&E ELECTIVES (Choose two courses - 8 credits)

ENGL 255	Film History: Early Cinema	4
ENGL 259	Popular Film Genres	4
ENGL 260	Film History: 1989–Present	4
ENGL 261	Film Theory	4
FMST 161	Introduction to Video Art	4
MUSC 101	Elements of Music	4
MUSC 110	Intro to Music Theory	4
MUSC 111	Theory 1	4
MUSC 134	Style & Genres: Introduction to Music History	4
MUSC 162	Music and the Mind	4
SART 151	New Media and Emerging Practice I	4
SART 153	Introduction to Sound Art	4

WRITING REQUIREMENTS

WRT 105	4
WRT 273 or 277	2

HUMANITIES CLUSTER

Cluster of three (3) four-credit courses	12

SOCIAL SCIENCES CLUSTER

Cluster of three (3) four-credit courses	12

ELECTIVE COURSES

At least forty (40) credits in Liberal Arts and Sciences (LAS)	46

FIRST YEAR

FALL			SPRING		
MTH 161	Calculus I	4	AME 141	Fundamentals of Digital Audio	4
AME 140	Intro to Audio Music Engineering	4	AME 191	Art & Tech of Recording	4
WRT 105	Writing	4		Social Science Cluster #1	4
	Elective	4		Elective	4
TOTAL		**16**	**TOTAL**		**16**

SECOND YEAR

FALL			SPRING		
AME 193	Sound Design	4	ECE 114	Intro to C/C++ Programming	4
	AME Major Elective #1	4	WRTG 273/277	Communicating Your Professional Idenity	4
	Humanities Cluster #1	2		AME Major Elective #2	4
	Elective	2		Social Science Cluster #2	4
		4			
TOTAL		**16**	**TOTAL**		**16**

THIRD YEAR

FALL			SPRING		
	AME Major Elective #3	4		AME Major Elective #4	4
	Humanities Cluster #2	4		Social Science Cluster #3	4
	Elective	2		Elective	4
	Elective	4		Elective	4
		4			
TOTAL		**16**	**TOTAL**		**16**

FOURTH YEAR

FALL			SPRING		
	AME Arts & Sciences Major Elective #1	4		AME Arts & Sciences Major Elective #2	4
AME 385	Capstone Project	4		Elective	4
	Humanities Cluster #3	4		Elective	4
	Elective	4		Elective	4
TOTAL		**16**	**TOTAL**		**16**

	Total Credits	**128**