

Music 25: Introduction to Sonic Arts

This course provides an introduction to the study of music with sound technology, using notable examples in music, sound art, intermedia, and installation. Starting with the birth of electricity, Futurism, and Dada, students will examine the practices and innovations that led to the most current ideas about Sonic Art, and from here develop analytical methods for exploring music of more distant times and places. Students will be expected to develop a rounded 21st-century musicianship through the weekly Tonmeister labs, and the culmination of this course will be the creation of a basic original sonic arts composition using the technique and aesthetic principles learned throughout the course.

Prereq.: None

Offered: 15W, 16W; 3B

Learning Outcomes: At the end of this course you will be able to:

1. Acquire basic literacy in sonic and musical notation.
2. Understand key concepts pertaining to audio signals, technology, and acoustics.
3. Program / create music using common tools for music production and analysis.
4. Describe Sonic Arts in broader historical and cultural frameworks.
5. Compose and perform original sound art.

Assessment

Class participation, reading, and discussion	10%
<i>Tonmeister</i> Lab [Sunny Nam, Instructor]	25%
6 x weekly lab assignments @ 2% each	12%
2x Assignment Projects	10%
Take-Home Midterm Part I and II	18%
Final Laptop Ensemble Concert	25%

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Required Texts

Ableton, LIVE (see required software)

Everest, Frederick Alton. *Critical listening skills for audio professionals*. Thomson Course Technology, 2007.

Tonmeister Lab

Grades for the work in this course A significant portion of Music 24-27 will be devoted to building fundamental aural skills specific to production and sonic arts. The ability to recognize, identify, notate, replicate, and evaluate what you experience is critical as you grow as a musician.

To develop these skills you will be required to do two things regularly:

1. Attend and actively participate in the weekly *Tonmeister* lab (x-hour, Thursday 12:00-12:50p.m. in Studio One)
2. Devote one hour of practice a week to aural drilling using the listening component of *Audio Production and Critical Listening: Technical ear Training*. All music majors and all students enrolled in Sonic Arts courses have access to this software. Faculty will review both the time you are spending and the progress you are making using and may recommend ways to improve your performance.

Your work and progress both within the weekly lab and from using *Audio Production and Critical Listening: Technical ear Training*. will constitute **25%** of your grade in **Music 25-28**. The remainder of your grade will be determined by your performance on the various assignments and on your attendance and participation.

Required Software

Ableton LIVE is the software for this course. It is critical that you get this software installed, purchased, and operating properly within the first week of class since the majority of labs, production, and performance will happen using this program. That said, this course is not about LIVE, but about music! You will be responsible for learning to master the tools within this program as it relates to musical problems and questions. If you require additional help with this program beyond what can be provided by T.A.'s, office hours, or online tutorials, then you should consider carefully whether this course is appropriate for you.

Attendance

As mentioned above, 10% of your grade will comprise attendance and participation. **Please note:** more than *three* absences from class or *one* absence from a laptop rehearsal day, (see below,) will result in a zero! Since this class involves performance practice, it is vitally important that you are present and engaged with the tasks and materials.

Laptop Policy

In this course, your laptop is a musical instrument. There will be both appropriate and inappropriate times when you should be using your laptop. Certain sections of lectures and discussions may require all or some laptops to be closed, i.e. not in use.

Statement on Physically and Learning Disabled Students

Students with disabilities enrolled in this course who may need disability-related classroom accommodations are encouraged to make an appointment to see me before the second week of the term. All discussions will remain confidential, although the Student Accessibility Services office may be consulted to discuss appropriate implementation of an accommodation requested.

Student Religious Observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

Office Hours

M.W.F. Replace this information with relevant times and contact information per Instructor availabilities.

Honor Principle

It is generally assumed that you adhere to Dartmouth College's *Academic Honor* policy outlined in the ORC. This means that you must acknowledge sources---in any format---whether it be audio samples, written text, etc. Furthermore, given the collaborative nature of an ensemble, you may be asked at the end of the course to provide a statement of contribution to the final collaborative project, which may impact your final grade. Failure to accurately report your sources and contributions may result in serious academic action by the Associate Dean of Students.

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week 1. --- What is Sonic Art?	Assignments/Readings
The confluence of art, technology, and music at the beginning of the 20th Century, and the birth of a new form of sonic expression. [Lecture] Basic tools for sound and music production. [Lab] When the recording is the score / waveform literacy. [Tutorial]	<i>Introduction to Electroacoustic Music (IEM) Ch.1-3, 8.</i> Lab I Digital Sampling Basics.
week 2 . --- Electricity as Music	
Influences of electricity on music, communication, and our understanding of sound. [Lecture] Early Electronics: The phonograph, electrical telegraph, early synthesizers and amplification. [Demo] Quantitative and qualitative evaluation methods for sonic art. [Tutorial]	<i>IEM Ch. 4,6,7</i> Lab II Digital Audio and Envelope

week 3. --- Techniques of Sonic Arts I	Assignments/Readings
<p>Concepts relating to audio signals, media formats, spaces, and production. [Lecture]</p> <p>Patch-Based Electronics: Moog Synthesizer. [Demo]</p> <p>General Techniques: microphones, speakers, amplification, recording, processing. [Lab]</p>	<p><i>IEM Ch. 5, Supplemental Reading 24.1</i></p> <p>Lab III Form, Transition, and Transfer</p>
week 4. --- Historical Contexts	
<p>Historical contexts for electronic music [Lecture]</p> <p>Institutional: (e.g. GRM, Elektronische Musik, Mark II)</p> <p>Inventor: (e.g. Theremin, Moog, Buchla)</p> <p>Corporate: (Yamaha, Roland, Audio Technica)</p> <p>Emergent Installation, sound art, concerted installation, multimedia arts. [Lecture]</p>	<p><i>IEM Ch. 10</i></p> <p>Take-Home Midterm Part I</p> <p>Assignment I Defining Your Sound World</p>
week 5. --- Notations of Sonic Arts I	
<p>piano roll-notation, sequencers, automation functions, and control signals cont.</p> <p>Graphs as musical notation: waveforms, spectrograms,, and other basic representations of sound and music.</p>	<p><i>Supplemental Reading 24.2</i></p> <p>Take-Home Midterm Part II</p>

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week 6. --- Minimalism, and Electronic Dance Music		Assignments/Labs
<p>From classical to trance: looping, permutations, process music, and groove. [Lecture]</p> <p>The rediscovery of sounds synthesis in contemporary EMD and contemporary minimalist composers. [Demo]</p> <p>Laptop orchestras background, SLORK, PLORK, assignment of laptop ensemble groups. [Rehearsal]</p>		<p><i>IEM Ch. 9, 11</i> Lab IV Tone, Noise, Timbre</p> <p>Assignment of Laptop Ensembles</p>
week 7. --- Notations of Sonic Arts II		
<p>Introduction to pureData ChUcK, generative sound art, computer audio analysis, and off-line audio processing. [Lecture]</p> <p>Improvisation and performance strategies in recent works for laptop ensemble [Demo/Rehearsal]</p> <p>Laptop ensemble open rehearsal 1 [Rehearsal]</p>		<p><i>Supplemental Reading 24.3</i></p> <p>Lab V Making Music with Code</p> <p>Assignment I DUE</p>
week 8. --- Techniques of Sonic Arts II		
<p>Basics in AM and FM synthesis, reverberation, convolution, granular synthesis and other non-fourier techniques. [Lecture]</p> <p>Laptop ensemble open rehearsal 2 [Rehearsal]</p> <p>Laptop ensemble project updates [Rehearsal]</p>		<p><i>Supplemental Reading 24.4</i></p> <p>Lab VI Working with Sound Samples</p>
week 9. --- Live Electronics vs. Living Environment		
<p>Laptop ensemble open rehearsal 3 [Rehearsal]</p> <p>Laptop ensemble open rehearsal 4: In-class group laptop ensemble show and tell. Evaluation of technology, sound quality, performance clarity, and musical ideas.[Rehearsal]</p>		<p><i>IEM Ch. 12, 13</i> Assignment II Your Contributions</p>
week 10. --- Final Laptop and Electronic Ensemble Performance		
<p>A presentation of your final projects, which should consist of a laptop ensemble performance with classmates in Music 025.</p>		<p>Assignment II DUE</p>