Course Syllabus

Salt Lake Community College – Fine Arts

MUSC 1550-351 – Musical Acoustics

Spring Semester 2022

Instructor: Instructor Name

Phone/Text: Instructor Phone

E-mail: Instructor Email

Course Description

Basic instruction in musical acoustics beginning with a foundation in the physics of sound waves, sound measurement, and the human ear. Students will learn how different instruments create musical sounds and fundamental aspects of room acoustics and sound reproduction. They will also learn how these principles affect human perception of musical experiences. Prerequisite: EIT 1110 or equivalent.

Course Objectives

Students will demonstrate an understanding of the nature and behavior of sound, how sound waves are transmitted, how they are perceived by humans and consequences of these characteristics that can impact the production of music both in recording and performance settings.

Students will demonstrate an understanding of harmonic spectra, especially as they relate to musical sounds, how they are perceived as timbre, how this affects orchestration and instrumental doubling, how various forms of sound generation impact the timbre/harmonic spectrum generated by instruments, and how instrumental acoustics can impact effective microphone placement in close-microphone recording situations.

Students will demonstrate an understanding of the principles and terminology associated with room acoustics and how different environments impact musical performance and recording activities.

Students will demonstrate the ability to apply acoustic formulas and perform basic computations relative to acoustic principles learned.

Textbook

This is the REQUIRED Textbook

Musical Acoustics, Third Edition by Donald E. Hall, Brooks Cole: 2001. (ISBN-10: 0534377289, ISBN-13: 978-0534377281).

Grading

Presentations	30%	93-100% = A 90-92% = A-
3 Exams	50%	87-89% = B+ 83-86% = B 80-82% = B-
Attendance/Participation	20%	77-79% = C+ 73-76% = C 70-72% = C-
	100%	67-69% = D+ 60-66% = D 55-59% = D-
		54% or less = E

Presentations

Each student will make presentations to the class on subjects assigned from the course content, beginning the fourth week of the semester. These presentations should be approximately 30-40 minutes in length, and will be the basis for class discussions on the subject. You will be the authority on your subject on the day of your presentation, and you should be prepared to answer questions.

Demonstrations, video links, home videos, and other means of illustration of concepts improve the class experience and will improve your grade. Be creative!

Starter Quiz & Exams

A Starter Quiz will cover basic concepts prior to the beginning of class discussions. Exams will assess student progress in each of the four course objectives. The first exam will primarily assess student progress in the first objective. The second exam will assess the second objective, and the final exam will primarily assess the third objective. All exams will contain questions designed to assess the fourth objective.

Participation

Your participation in class discussions is a vital component to this seminar-style class. While direct participation (asking questions or making comments in our classroom) is preferred, it is understood that not everyone is comfortable speaking up in a public environment. As such, a graded Discussion will be available for each classroom presentation so you may earn the available participation points.

POLICY ON ATTENDANCE, EXAMS AND ASSIGNMENTS:

We will cover a lot of material in this class. If you get too far behind it is very difficult to catch up.

Don't be afraid to ask questions or share substantive comments. Class participation will be assessed, and represents 1/5 of your overall score.

College standards suggest at least three hours of work per week per credit hour.

Study groups are encouraged and can be very helpful, but you must do your own work on your graded assignments, and exams.

LATE POLICY: I will accept late **assignments** (with a 10% grade penalty), provided you turn in **SOMETHING** by the specified due date/time. You must turn in evidence of partial work on the assignment by the specified due date/time. You will have at least 10 days to complete your work, provided you meet the original due date and time with a submission to Canvas. I will not accept your work if you do not make an initial submission by the original due date and time, resulting in a zero for your score.
The **Starter Quiz** and **Exams** are not available to be turned in late, as the first three will be discussed in class on their due dates, and the third will be due on the scheduled final exam day for the class.

Extra credit will primarily be available via online scavenger hunts, researching different modern instruments with a focus on their sound generation paths. Details can be found here: **Tools Of The Trade**

Institutional Syllabus Link - Important Information

Institutional Syllabus Information Please Read

Course Sequence

	Reading in Textbook	Topics
Week 1	Chapter 1	The Nature of Sound
Week 2	Chapter 2	Waves and Vibrations
Week 3	Chapters 3 & 4	Classifying Sound Sources Sound Propagation
Week 4	Chapters 5 & 6	Measuring Sound Intensity The Human Ear
Week 5	Review Chs. 1-6	Music Fundamentals Exam #1
Week 6	Chapters 7 & 8	Sound Spectra Electronic Synthesis
Week 7	Chapters 9 & 10	Percussion Instruments
Week 8	Chapters 11 & 12	Struck and Plucked Strings Bowed Strings
Week 9	Chapter 13	Blown Pipes

Week 10	Chapters 13 & 14	Blown Reeds Human Voice - Vocalization
Week 11	Review Chs 7-14	Exam #2
Week 12	Chapter 15	Room Acoustics Loudness and Masking
Week 13	Chapter 16	Sound Recording Reproduction of Recorded Sound
Week 14	Chapters 16	Loudspeakers
Week 15	Chapters 17 & 18	Perception of Music: Pitch, Timbre Tuning and Temperament
Week 16	Chapters 19	Musical Structures

Be aware that this schedule is an outline. Changes may be made over the course of the semester. Adjustments to the schedule will be announced.