USC School of Cinematic Arts Interactive Media & Games Division

CTIN-444: Audio Expression
Units: 2.0
Spring 2016-Tuesday-11-1:50pm

Location: SCI L114

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IT Help: Interactive Media & Games Dept for Lab related issues.

Course Description

Sound is an immensely powerful narrative device. One of the most powerful things about sound is that it can imply actions or items not possible through visuals. It affects our perception of game events on an even deeper level than graphics, story or character. Audio also plays a crucial role in our emotional lives and alters our perceptions, affecting us on a deep emotional level because we are continually experiencing it. Unlike the eyes, **the ears never "blink"**.

Game audio has come a long way when measured by production quality and technological advancements, but still trails other art forms when it comes to artistic expression. Modern technology now makes it easier than ever to create high-quality production audio but does nothing to advance the greater goals of high artistry and meaningful work. Indeed, it can be argued that the emergence of low-cost advanced audio technology in less skilled hands is often the enemy of artistic value, as it provides so much freedom to over-produce and over-implement sound in games. Given such infinite flexibility, how can game creators begin to make better and more memorable sound by using less, being cleverer, viewing the acoustic environment as a musical composition, and having a better understanding of the principles of cinematic sound design?

Over the next several years, successful game creators will push into new musical and sonic territories and drive deeper emotional resonance into their creations by beginning to focus on audio aesthetics, just as they have done in recent years by adopting some of the principles of visual aesthetics. In order to achieve this, however, the audio leaders of tomorrow must develop a deep familiarity today with the foundations and principles of aesthetics.

In order to progress artistically as an expressive medium, game audio will take cues from other aesthetic points of reference such as film, theatre, performance art, *Musique Concrete*, and more, while finding its own unique identity derived from the fact that in a game, unlike in those other art forms, events rarely unfold the same way each time the game is played and replayed. We will examine how artistic techniques from other media might be applied to game audio design and discuss how employing proper aesthetic principles to drive the latest game audio specific tools, technologies, and techniques can enable content creators to push audio, and games themselves, forward in an emotionally impactful way.

Learning Objectives

Audio Expression introduces students to the possibilities and potential of audio when deeply integrated into the design process. This course provides a foundation for crafting deeper emotional resonance by focusing on the principles of audio aesthetics, and supplies a rich toolkit of artistic techniques derived from examples found in nearly all forms of art. The course aims to demonstrate how sound can be utilized in the design process as a fundamental storytelling agent, opening up previously unexplored paths in order to create truly remarkable works of art.

This is a mixed-media class which, through a combination of lectures; watching, listening to, and analyzing various media; listening exercises and labs; and projects to complete, students will be introduced to key principles and technologies that will enable them to process, mix, and control sound for aesthetic effect in order to craft the story elements of a game, control the pacing of gameplay, enforce the game play narrative, elicit and influence emotion, create mood, shape perception, and reinforce the way players experience game characters. The class will bridge the gap between theory and practice, fostering a strong understanding of the vocabulary and the fundamentals of sound and acoustics and the ability to establish a cohesive and effective audio aesthetic by applying control over each sound in order to build a memorable game experience.

The point of the class and the projects you'll be working on is to use your analytical skills, ingenuity, resourcefulness, and creativity. Ultimately, this class is about analytics, expression, creative and innovative thinking, experimentation, and most importantly, **thinking outside of the box and exploring unorthodox paths.**

Most importantly, this class will open the student up to new ideas and draw out new forms of creativity.

The Structure of the Class:

1. The major attributes or components of sound.
2. Sound propagation and the physical manifestation of sound.
3. The perception of sound, including the different "modes of listening".
4. Physiological responses to sound.
5. The basic elements of audio aesthetics and the development and documentation of an audio aesthetic.
6. The implementation and execution of that audio aesthetic, using game-specific audio tools, technologies, and techniques.

Audio Expression Practices Covered:

1. Establishing a cohesive and effective audio aesthetic by applying control over each sound in order to build a consistent environment.
2. How to use acousmatic sound as a way to communicate "messages", meaning, metaphors, pacing, and mood in a non-visual way.
3. The role of sound and psychological imagery in creating deeper connections to experiences.
4. How the manipulation of frequencies can develop and communicate emotions & feelings.
5. Acoustic Ecology & soundscape composition: sound as a holistic system.
6. The subjective perception of sound as a device for intensifying the narrative qualities of a medium and building a stronger connection to characters.
7. The synthesis of words, vocalizations, and mundane object sounds to create vivid soundscapes.
8. Creating characters and their emotional make-up through sound concepting and leitmotifs.

Prerequisite(s): Successful completion of CTIN 406L is recommended but not required.

Recommended Preparation: A basic understanding of sound recording, editing, and processing.

Course Notes

This syllabus is subject to change. Please refer to the most recent updates on http://www.syndicate17.com/444 for the latest version. Class updates will be posted each week by Thursday at 5:00pm and distributed via e-mail.

You should always be carrying some kind of audio recording device (cell phone or tape recorder) with you everywhere you go, recording sounds you find interesting and making sounds -- combining different objects together in different ways (scraping, rubbing, hitting, slicing, etc.).

Eventually, you will be importing these into an audio editor (like Audacity, Audition, or a DAW) and applying various effects (filters, pitch shifting, chorus, delay, reverb, etc.) to experiment with how these parameters change and affect the sounds.

<u>**This is an important activity for class and independent of the class.**</u> A number of the labs/experiments we will be doing throughout the semester will help you with this kind of creative experimentation and assist you with the creative process.

Independently of the class, You'll want to keep a sound diary and a library – keeping note of the sounds you've recorded and how you have changed them (what parameters did you use to modify the sounds?). Describe the new sounds and document all the things they could be used for. Be as descriptive as possible so that you can easily find these new sounds.

There is an interactive component where students will share ideas with the class – almost like a think tank where we learn from each other. Students are expected to participate actively in both the giving and receiving of feedback, critique, and analysis.

Technological Proficiency and Hardware/Software Required

The main tool we will be using for the exploration and manipulation of sound is Audacity. Audacity is a free download and can be found here: http://audacityteam.org. Documentation and tutorials can be found on that site as well.

You will also need a portable audio recording device (this could be your iPhone, etc.), headphones or earbuds, and any possible USB cables (Bluetooth is another method that can be used) to get the content from your recording devices into your audio editors.

Please note that you can also use Adobe Audition or a DAW (like Logic, etc.) in addition to or instead of Audacity.

Required Readings and Supplementary Materials

Sound Design: The Expressive Power of Music, Voice, and Sound Effects in Cinema by David Sonnenschein

The Game Audio Tutorial: A Practical Guide to Sound and Music for Interactive Games by Richard Stevens and Dave Raybould

Course reader comprised of selections from *Game Sound Technology and Player Interaction: Concepts and Developments* by Mark Grimshaw, *From the Shadows of Film Sound: Cinematic Production and Creative Processes in Video Game Audio, Collected Publications 2000-2010* by Rob Bridgett, and some selections on

acoustic ecology and its relation to game audio (This will be available as handouts in class or as digital files on the course website).

These texts are available at the USC Bookstore and via online retailers such as Amazon.com and BarnesandNoble.com.

Course Website: http://www.syndicate17.com/444

Description and Assessment of Assignments
The class features a number of assignments that will reinforce the concepts put forth in the lectures, as well as in-class lab sessions.

The Audio Expression practices detailed above will be illustrated through a number of highly interactive, enjoyable and memorable classroom exercises and projects that reinforce and build upon the concepts presented. These may include the following (**subject to change**):

Example Audio Projects & Exercises:

1. **"Hell's Kitchen For Sounds" Lab** or **Sound Identification:** Tests the ability of students to identify several sounds and promotes creativity and an understanding in making cool sounds. Making sounds with different objects & guessing what they are. Understanding various material properties and how to interact with objects. What sounds do you think you could make from these objects? The second part is to create a specified soundscape while the students are given a limited number of materials that have nothing to do with that soundscape. For example, students are given five objects (a piece of tin foil, a paper cup, a stapler, a sheet of paper, and a plastic bag) and asked to create a factory soundscape or a rocket ship blasting off.

2. **"Mystery & Danger" Lab** - Analysis & articulation of an emotion and/or feeling using sound design properties. Based on the "tension exercise" we perform in class, please write up a detailed analysis (from your subjective perspective/a sound designer's perspective), what "mystery & danger" would sound like. Meaning, if a client asked you to create a sound design based on the words "mystery & danger", what would you do? What does this mean to you? How would you approach; what would your process be? The 2nd part of this exercise is to create this soundscape.

3. **Mouthing SFX Ambiences & Soundscape Lab** - Create a soundscape completely out of "mouthed SFX", vocalizations, singing. Obviously, you will need to manipulate these sounds in an audio editor. The type of soundscape you want to create is up to you. It can be that of a bustling city soundscape. It can invoke an imaginary world. It can be a pleasant residential neighborhood. But whatever direction you go in, it should tell a story and invoke an emotion. Anybody should be able to listen to your ambient layers and get a strong visual in their minds, as well as trigger some kind of emotion or experience in them. This is important! Please accompany your projects with a paper that details out your projects including a description of your concept, process, paths taken, analysis, thoughts, what went right/what went wrong, conclusions, any additional information you wish to share. Please work in teams with other students from the class.

4. **"The Cardboard Lab" or "Ear Cleaning" Lab -** Create a composition OR a soundscape from the sounds you can make with a piece of cardboard. I am looking for as much creativity and "outside of the box" thinking as possible here! I want to reiterate that the idea with the "Ear Cleaning" assignment is to be creative and tell a story with your piece. If you choose to do a musical composition, it must make sense musically and rhythmically. You will want to create a piece that follows a tempo map (so, please use a click track or metronome). Again, as with the SFX vocalization project, please accompany your projects with a paper that details out your projects including a description of your concept, process, paths taken, analysis, thoughts, what went

right/what went wrong, conclusions, any additional information you wish to share. Please work in teams with other students from the class.

5. **Character Design Lab -** Create characters and their emotional makeup through sound concepting and leitmotifs. The most memorable characters are often defined within a game by their sound palette. Audio concept work can greatly aid designers in constructing a palette of sounds appropriate for various elements and themes within the game, including character design. The manipulation of the musical material of the character theme or motif can reveal much about both the nature of the character and what the character is feeling at any given time. What you do musically with these themes can effectively provide an emotional or psychological subtext without the need for dialogue.

6. **"Hell's Kitchen For Sounds Part 2" –** Students will listen extremely carefully to a synthetic sound effect played in class, take detailed notes on the sound, and then reproduce it as closely as possible. You must work in groups of two. Ultimately, the point of this assignment is to use your analytical skills, ingenuity, resourcefulness, and creativity to try and recreate the sound as best as possible and the "scientific" process you went through. Team members will need to submit their own paper. This should be a very detailed lab report that documents your sound experiment (it should describe your concept, process, paths taken, analysis, thoughts, what went right/what went wrong, conclusions). Each team will need to present their project in class and discuss their concept and process in a clear and detailed manner.

7. **The Final Project –** Students will be required to produce a final project in which they must propose options of their own based on class guidelines. Meetings will take place mid-semester to discuss and approve the student's selection.

   Think Outside The Box! - **The Theme**. Accomplishing this with artistic expression through audio. The point is to be creative and to explore new territory.

   The objective of this project is to demonstrate what it means to think outside of the box and to express that theme through audio. Part of this assignment is to interpret what that means. It's a very personal thing. What does it mean to you?

   - This can take many forms: an audio experience, an audio tour, an experiment, an art installation.
   - You can explore a topic like ambiguity.
   - You can explore image and sound and/or sound and narrative or sound and perception.
   - Can combine various media. Can be an installation.
   - Something that speaks to you and your interests and focus.
   - Can focus on the physiological and psychological responses to sound.
   - The power of sound on the psyche.
   - Can't utilize a project that you are currently working on. You need to create a new project.

In addition to the mid-semester meetings to discuss student's final project proposals, mid-semester status meetings with students will take place to go over your work and what can be improved. **You are responsible for setting these up with me!**

As this is an expression class first and foremost, oral and written detailed analysis is a major part of this class, and therefore analysis and expression through the concepts is essential. Hence, there will always be an analysis portion, in addition to a project or a pure analysis on its own.

Grading Breakdown

Participation	5
In-class labs	15
Assignments	35
Final project	45
Total:	100

Assignment Submission Policy

Assignments will be submitted directly to the instructor, as detailed on a per-assignment basis via the weekly instructor e-mails to the class.

Teams and Individual Assignments: All assignments will be turned in as separate individual reports, even when you are working in teams. Each member of the team will provide a separate report/presentation for grading.

All assignments and projects must be turned in before the beginning of class.

Missing an Assignment Deadline, Incompletes:

The only acceptable excuses for missing an assignment deadline or taking an incomplete in the course are personal illness or a family emergency. Students must inform the instructor *before the assignment due date* and present verifiable evidence in order for a deadline extension to be granted. Students who wish to take incompletes must also present documentation of the problem to the instructor or student assistant before final grades are due.

For assignments turned in after the assignment deadline without prior permission from the instructor, a penalty will be imposed equal to 10% of the total available points for the assignment, for each day or part of a day that the assignment is late, up to a maximum of seven days.

Attendance Policy:

Punctual attendance at all classes is mandatory. Students arriving more than five minutes late to three classes, more than ten minutes late to a single class, or leaving early, will be marked as having an unexcused absence from class, unless prior permission has been obtained from the instructor. The following guidelines are from the Interactive Media & Games Division handbook regarding absences and grading and apply to all students.

Guidelines for absences affecting grading
  • Two unexcused absences: lowers grade one full grade point (for example, from A to B)
  • Three unexcused absences: lowers grade two full grade points
  • Four or more unexcused absences: request to withdraw from course (instructor's discretion)

Excused absences are:
  • Illness (with a doctor's verification)
  • Family or personal emergency (with verification)

Social Media Use in Class

Social media, including text messaging and internet messaging, are excluded from class unless explicitly permitted by the instructor. A 0.5% grade reduction will result from each occurrence of a student being found using them.

Content Warnings
If you include content in the work that you produce which may cause distress to your fellow students, please make a verbal 'content warning' immediately before you present the work in class, and include a written content warning, either at the beginning of a piece of written work, or in the readme file of a project, when you submit the work for grading.

Students who ever feel the need to step outside class during the presentation or discussion of work that warrants a content warning may always do so without academic penalty. You will, however, be responsible for any material you miss. If you do leave the room for a significant time, please make arrangements to get notes from another student or see me individually.

Content which requires a content warning includes graphic depictions or descriptions of violence, sexual acts, racial, sexual or cultural stereotyping, abuse (especially sexual abuse or torture), self-harming behavior such as suicide, self-inflicted injuries or disordered eating, eating-disordered behavior or body shaming, and depictions, especially lengthy or psychologically realistic ones, of the mental state of someone suffering abuse or engaging in self-harming behavior.

If you have any questions about what warrants a content warning, including visual, auditory or tactile depictions, textual or verbal descriptions, and meaning embodied in game mechanics and interaction patterns, please let me (the class instructor) know.

If you ever wish to discuss your personal reactions to material presented in class, either with the class or with me afterwards, I welcome such discussion as an appropriate part of our coursework.

Diversity
In making games and interactive media in a professional and ethical way, it is important that you consider diversity. When looking at your projects, you should consider who is depicted and how this work will impact others. What kinds of individuals and communities are represented in your work? What point of view does your work express? This class my assist you in learning how to make work that includes diverse viewpoints, and may discuss racial, religious, gender and sexual orientation issues in the context of games and interactive media.

Fair Use
Fair use is a legal principle that defines certain limitations on the exclusive rights of copyright holders. The Interactive Media & Games Division of USC's School of the Cinematic Arts seeks to apply a reasonable working definition of fair use that will enable students and instructors to develop multimedia projects without seeking authorization for non-commercial, educational uses. In keeping with section 107 of the Copyright Act we recognize four factors that should be considered when determining whether a use is fair: (1) the purpose and character of use, (2) the nature of the copyrighted work, (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole, and (4) the effect of the use upon the potential market for or value of the copyrighted work. In general, we regard the reproduction of copyrighted works for the purposes of analysis or critique in this class to be covered by the principle of fair use.

Citation Guidelines
Where appropriate, all projects will need to include academically appropriate citations in the form of a Works Cited section, which covers all sources, in order to receive a passing grade. The Works Cited is either included in the project or as a separate document, as appropriate to your project. The style we use is APA 5th edition and you may refer to these guidelines: http://owl.english.purdue.edu/owl/resource/560/01/

Additional Policies

Saving Work
Please keep backup copies of your work, whether on another electronic device, on the cloud, or paper.

Changes
There may be changes, additions, or substitutions of assignments/projects/topics as appropriate to our work and pace as a class.

Course Schedule: A Weekly Breakdown

	Topics & Reading	Labs & Assignments
Week 1:	Overview of the class, course goals & objectives, and the final project. Examination of the aesthetic, creative, and technical challenges of creating audio for video games. What are the functions of audio in games and what are the different places in a game where audio is utilized? Audio as art, the problems with game audio, aesthetics vs. functionality, the importance of audio, Orson Welles & the power of sound, & a general overview of aesthetic expression in game audio design. **Reading:** "The Science and Art of Listening" article in the NY Times by Seth S. Horowitz; Listen to Orson Welles' "War of the Worlds" radio dramatization (provided on course website) & read article "Welles Scares Nation" on History.com; Read (and explore the links and examples) about what is sound design, what it isn't, and what a sound designer does on the Audio Black Holes site; Watch "Touch the Sound—A Sound Journey With Evelyn Glennie" (provided on course website).	
Week 2:	Watch short SIC Promo video. Watch "Listen" (a short film on R. Murray Schafer). Watch Evelyn Glennie TED Talk: "How to Truly Listen". Introduction to the four traditional primary modes of listening: reduced, causal, semantic, and referential.	**Listening Lab:** Write down everything you hear in the environment. Position sounds in relation to the listener drawing. Source sounds are represented as circles with different sizes indicating relative volumes/loudness to the listener. Perform with and w/o a blindfold. **Listening Mode Classification Exercise. "Hell's Kitchen For Sounds" Lab** or **Sound Identification:** Test the ability of students to

	Watch a short video from the BBC in 1979 on Musique Concrete & tape music. Discussion of listening modes continues with a hierarchical scheme of listening modes that correspond to the different levels of cognitive operations. Introduction to the seven major attributes or components of sound (rhythm, intensity, pitch, timbre, speed, shape, and organization) with an emphasis on how to recognize these components and demonstrate their relation to the physiological and psychological effects of sound. **Reading:** *Sound Design* – Chapter 3 (pgs. 63-70 end at **Organization** section); Chapter 4 (pgs. 77-94); *The Game Audio Tutorial* – Chapter 3; Tuuri & Eerola paper (*"Formulating a Revised Taxonomy for Modes of Listening"*); *"Rodney Gates Special: Learning to Listen: Using Sounds out of Context"*.	identify several sounds and promotes creativity and an understanding in making cool sounds. Making sounds with different objects & guessing what they are. Understanding various material properties and how to interact with objects. **Assignment: "Try This"** exercises on pg. 69 and pg. 71 (*Sound Design*)
Week 3:	Discussion of sound propagation: reflection, refraction, absorption, scattering, diffraction, diffusion, the Doppler effect. The impact of sound sources, spatialization, directionality, localization, and occlusion/obstruction/exclusion on sound propagation. Discussion of the impact of sound on perception: space, time, distance, speed, and tone. Discussion of gestalt principles and aural illusions. **Reading:** *Sound Design* – Chapter 7 (pgs. 151-155); Kristine Jørgensen's paper (*"Time for New Terminology? Diegetic and Non-Diegetic Sounds in Computer Games Revisited"*); *The Game Audio Tutorial* – Chapters 1 & 2.	**Directionality/Localization/Echolocation Labs**: Test the ability of students to locate the direction of sound sources. **Assignment: "Try This"** exercise on pg. 86 (*Sound Design*).
Week 4:	Discussion of diegetic vs. non-diegetic sounds and proposed alternative models of analyzing game sound in terms of spatial	**Sound Sphere Lab**

	integration. Introduction to Sonnenschein's Sound Sphere's model and its application to game sound design. The practical & aesthetic issues and design principles of diegetic music in games. Subjective perception of sound. Sound as story. **Reading:** *Sound Design* – Chapter 8 (pgs. 182-189); Sonnenschein paper (*Sound Spheres: A Model of Psychoacoustic Space in Cinema*); Blumstein, Davitian, Kaye paper (*Do Film Soundtracks Contain Nonlinear Analogues to Influence Emotion?*); Milena Droumeva's paper (*"An Acoustic Communication Framework For Game Sound: Fidelity, Verisimilitude, Ecology"*).	**Sound as Story Lab:** Listen to an audioscape excerpt that is played and write down the images you have in your head. How does this piece make you feel? What effect does it have on your perception? What story do you think is being conveyed? **Assignments:** Choose one video game and one film that you believe did an amazing job in terms of sound design. Why did you pick those games/films? Give a detailed analysis of the audio designs in those mediums and be as expressive as possible. Please convey your analysis in a very vivid and developed way so we can all get the idea even if we've never seen those products. Your analysis should include concepts and terms we've covered in class and the readings, where appropriate; Exercise on pg. 19 of *Sound Spheres* paper. Apply to both a filmic scene and a game scene.
Week 5:	A study of the video game "Bastion" and Darren Korb's approach to the audio in that game. Watch Darren Korb's presentation from the Game Developers Conference. Watch SFX video "Bleep Blap Bloop" Discussion of the physiological responses to sound: startle response, orientation response, ecstatic response, stress responses. Introduction to non-linear analogues and how they affect emotion. The basic elements of audio aesthetics: emotion, context, cognition, perception, acoustic ecology & soundscape composition, resonance, and entrainment and how they pertain to game auditory spaces, narrative meaning, & level design. An examination of dynamic, ambient systems. **Reading:** *Sound Design* – Chapter 5 (pgs. 124-129); Spanos article (*Silence in Sound Design*); *Game Sound Technology and Player Interaction* – Chapter 10.	**SFX Vocalization Lab** **Audio Aesthetics Analysis Lab:** Review and analyze the audio designs for environments from a selection of movies and video games with a focus on being as expressive as possible. Analyses should include concepts and terms we've covered in class and the readings, where appropriate. **Assignment:** Create a soundscape completely out of "mouthed SFX", vocalizations, singing.
Week 6:	Discussion of audio aesthetics continues with subtlety, silence & tension, misdirection, counter-functional sounds. Dynamics mapping & narrative structure. Watch "The Sound of Gravity" & "Saving	**"Ear Cleaning" Lab (based on Schafer's concepts & an exercise by Kim Soleski Ward):** Students will sit blindfolded in groups and will each need to make up a sound using a single piece of cardboard.

	Private Ryan Music and Sound Documentary".	After that student makes a sound, the cardboard is passed to the next person. The next student will then need to imitate the sound made by the former, and then make up a new sound. The next student will imitate that new sound and then make up another original and so on.
	The sound of fear (audio devices utilized in horror films and the horror survival game genre). Listen to *The Sound of Fear* podcast.	
	Watch a couple of videos in which the audio directors for Dead Space 1 & 2 discuss their approach to the audio design and aesthetic in these products.	**Audio Aesthetics Analysis Lab:** Review and analyze the audio designs for environments from a selection of movies and video games with a focus on being as expressive as possible. Analyses should include concepts and terms we've covered in class and the readings, where appropriate.
	Schedule students' one-on-one meetings to review proposed final projects.	
	Reading: *Sound Design* – Chapter 7 (pgs. 159-171).	**Assignment:** Create a musical composition or a soundscape from the sounds you can make with a piece of cardboard.
Week 7:	Applying artistic techniques & literary devices to game audio design: Ambiguity, empathetic & anempathetic sound, "Forced Marriage" & Chion's concept of Added Value, the avant-garde filmmaking movement Dogme 95 & The Vows of Chastity. Acousmatic audio and using it to create meaning, metaphor, pacing, and mood in games. Utilizing psychological imagery in game audio design. Using the subjective perception of sound to intensify the narrative qualities of a game. Watch "Black Swan Sound Design". Watch & discuss analysis of the video game Bioshock 2's narrative storytelling through audio video. Watch & discuss analysis of audio in Jetpack Joyride video. **Reading:** *The Game Audio Tutorial* – Chapter 2 (pgs. 42-87); Damian Kastbauer's *Racing Game Sound Study* & *Game Audio Podcast #18 – Racing Games* (both provided on course website).	**Audio Aesthetics Analysis Lab:** Review and analyze the audio designs for environments from a selection of movies and video games with a focus on being as expressive as possible. Analyses should include concepts and terms we've covered in class and the readings, where appropriate. **Assignment: "Try This"** exercise on pg. 171 (*Sound Design)*.
Week 8:	Discussion of sound experimentation with a focus on creating dynamic and variable audio designs. Getting the most out of your	**Listening Lab (Marks' exercise):** Write down everything you hear in your head while watching the picture (volume muted)

	assets. An examination of Damian Kastbauer's work in the area of dynamic footsteps (heel-toe models, step intentions, surface materials, and variants).

Introduction to the development and documentation of an audio aesthetic: a common vocabulary, sound principles, and stylistic references, directions or guidelines that inform the audio design and content creation decisions.

Using sound concepts and leitmotifs for character design (including emotional and psychological subtext).

Leviathan sound design case study. | shown in class without the sound. Listen to what is occurring sonically in an action-based movie scene without looking at the screen. How is each sound placed in the soundscape? What effect has it on your perception of what is going on?

Sound Concepting Exercise

Creative Direction/Communication Skills Lab: Students divide into teams & produce audio plans based on specific game design directions.

"Tension" & "Serenity" Exercise: Analysis & articulation of an emotion and/or feeling using sound design properties.

Assignment: Based on the "tension exercise" we did in class, please write up a detailed analysis (from your subjective perspective/a sound designer's perspective), what "mystery & danger" would sound like. Meaning, if a client asked you to create a sound design based on the words "mystery & danger", what would you do? What does this mean to you? How would you approach; what would your process be? The 2nd part of this exercise is to create this soundscape. |
| **Week 9:** | Discussion of the concept of "Less is more" in sound design: the importance of editing oneself and working within self-imposed limits.

Watch "The Sound and Music of The Last of Us" video.

Reading: *Sound Design* – Chapter 5 (pgs. 101-124) & Chapter 7 (pgs. 155-156); *The Game Audio Tutorial* – Chapter 4. | **Character Design Lab:** Create characters and their emotional makeup through sound concepting and leitmotifs. |
| **Week 10:** | Discussion of musical elements in game sound design: leitmotifs, musical elements bleeding into the game environment, the aesthetics of surround music in games. Adaptive & variable game music concepts including horizontal re-sequencing and vertical re-orchestration and transition techniques. | **Music Creative Brief Lab:** Various pieces of music will be played and the students will need to write creative briefs for the pieces. |

	Reading: *Sound Design* – Chapter 1, (pgs. 35-43), Chapter 2, & Chapter 8, (pgs. 190-195); *Peregrine Andrews on the Sound of Sport: What is Real?* & *The Sound of Sport* podcast (provided on course website); *The Sound Design of Journey.*	
Week 11:	The relationships between recording techniques and audio aesthetics are discussed. Discussion of the characteristics of everyday objects and the sounds they produce, including the combining of objects to make other sounds (layering sounds). Watch short video on the Foley techniques and sound design aesthetic in Batman: Arkham City. Watch "BBC Alchemists of Sound" video.	**"Hell's Kitchen Part 2" Lab & Assignment (based on Schafer's "Ear Cleaning" concept):** Retuning to the sounds around us, analyzing them, & imitating them accurately. Pick a "signature" sound from a movie or video game and propose how you would construct that sound from scratch. **Assignment:** Students will listen extremely carefully to a synthetic sound effect played in class, take detailed notes on the sound, and then reproduce it as closely as possible. You must work in groups of two. Ultimately, the point of this assignment is to use your analytical skills, ingenuity, resourcefulness, and creativity to try and recreate the sound as best as possible and the "scientific" process you went through. Team members will need to submit their own paper. This should be a very detailed lab report that documents your sound experiment (it should describe your concept, process, paths taken, analysis, thoughts, what went right/what went wrong, conclusions). Each team will need to present their project in class and discuss their concept and process in a clear and detailed manner.
Week 12:	Oblique Strategies and creative tips & tricks. **Reading:** Bridgett papers (*Post-Production Sound: A New Production Model for Interactive Media*, *A Survey of Interactive Mixing Technologies and Techniques,* & *Top 11 Video Game Mixing Tips)*; Murch essay (*Dense Clarity – Clear Density*); *The Game Audio Tutorial* – Chapter 6.	
Week 13:	Discussion of the differences between film audio mixing and game audio mixing. Overview of dynamic, real-time mixing technologies and techniques (active and passive mixing, ducking, HDR audio) and	**Listening Lab:** An examination of examples from a number of recent games in order to hear how their mixes, dynamic ranges, and overall levels compare.

	their applications within the game environment. **Reading:** Bridgett's article (*Notes from the Mix: Prototype 2)*; *Game Sound Technology and Player Interaction* – Chapter 15 & 18; Ekman paper (*Modelling the Emotional Listener: Making Psychological Processes Audible*).	
Week 14:	Intentional & proactive sound design and the future of game audio. Introduction to procedural audio and physical modeling as it pertains to variable sound design and the manipulation of sounds due to listener modeling. Presentation & discussion of students' final projects.	**Assignment:** Make edits and polishes to projects based on feedback from the initial screening. **Due Week 16 (Final Exam Period).**
Week 15:	Presentation & discussion of students' final projects continues. Class wrap-up and discussion of opportunities in the game audio space.	**Assignment:** Make edits and polishes to projects based on feedback from the initial screening. **Due Week 16 (Final Exam Period).**
Final Exam Period	Submit final projects.	

Statement on Academic Conduct and Support Systems

Academic Conduct
Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards*https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* http://equity.usc.edu/ or to the *Department of Public Safety* http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute*

, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* *http://emergency.usc.edu/* will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Disruptive Student Behavior:

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action.

Syllabus Updates:

This syllabus is liable to change up to the beginning of class and possibly over the semester. Please check the posted syllabus regularly, and note all changes that are shared by the instructor in class.

Instructor Biography:

As the Co-Founder of Syndicate 17 and Director of the Experimental Audio Design Lab (EADL) at USC School of Cinematic Arts, Chanel Summers is an Audio Designer for Emergent Technology, an Educator, & an Interactive Audio Technologist.

Chanel Summers began her career as a pioneering designer and producer of video games, developing innovative products ranging from high-performance 3D vehicle simulations, to action/arcade platform games, to hardware peripherals while working at early industry-leading companies such as Mindscape, Velocity and Mattel Media.

Recruited to Microsoft in the late '90s, Chanel was responsible for the release of that company's first multiplayer internet game, Fighter Ace, a precursor to the rise of online gaming. Chanel was subsequently selected as the company's first Audio Technical Evangelist, in which capacity she was responsible for launching innovative audio technologies such as DirectMusic (a revolutionary method of creating and delivering interactive music and sound design) and also dramatically increasing the use of Windows as a platform for audio creation. With the inception of Microsoft's Xbox game system in 2000, Chanel was tapped to help design and promote the audio capabilities of the new hardware and to create the industry's first support team for content creators: a team of graphic artists, sound designers, composers and game designers who would work with the development community, coaching game creators to take advantage of the capabilities presented by Xbox. As a result, Chanel became a widely recognized figure in leading industry organizations, as well as the published author of a number of articles and technical white papers.

After leaving Microsoft, Chanel co-founded Syndicate 17, an audio technology and design consulting company that specializes in assisting highly innovative companies focusing on interactive, dynamic, and immersive audio to build industry-changing product. Syndicate 17 also writes and produces original scores, cues, and sound designs for everything from films and television shows to video games and web sites. Finally, the company also develops cutting-edge curriculum for educational programs around the world that are looking to find new methods of instruction in audio aesthetics and interaction design. In addition, Chanel is also a highly sought-after professional drummer, recording with and performing frequently in a number of nationally touring bands, working alongside such bands as Missing Persons, The Dreaming, Smile Empty Soul, The Last Vegas, Endless Hallway, and Vast, and showcasing in festivals ranging from CMJ to SXSW.

Chanel is a frequent lecturer at both music and technology industry events around the world, as well as at leading educational institutions, captivating audiences as diverse as TEDx, SXSW Interactive, the Game Developers' Conference (GDC), MAGES at MAGFest, Digital Hollywood, Trinity College (Dublin), SESAC, the Irish Music Rights Organization, the Seattle Interactive Conference, the Develop Conference, Girls Make Games, The Centre for Digital Media (Vancouver, BC), Queen Mary University of London, Lancaster University (HighWire Doctoral Training Centre), DYNAMICS School of Audio Engineering (Chennai, India), and the Dublin Institute of Technology – where she was also extended a formal invitation on behalf of the Academic Council of the school to formally act as an External Examiner for the MSc in Creative Digital Media program. Chanel sits on the advisory board for The Academy of Entertainment and Technology at Santa Monica College and the inaugural innovative audio conference A3E, is a member of the World Building Institute, a cutting edge research organization exploring the future of narrative media through World Building, and serves on the technology advisory board for VRstudios, Inc., a boundary-pushing VR company that has created wireless, full-motion virtual reality technology.

Chanel recently served as a consulting Chief Product Officer for a technology start-up based in Ireland and consults for a variety of innovative technology companies. Chanel developed and teaches a new course at the University of Southern California's Interactive Media & Games Division in the School of Cinematic Arts which focuses on the art and aesthetics of creating audio for video games and has worked with the USC faculty to create a dedicated minor in interactive audio for students looking to specialize in that area. Chanel has also just recently launched the Experimental Audio Design Lab (EADL), a new wing of the School of Cinematic Arts' Mobile & Environmental Media Lab (MEML), which will both serve as a creative, experimental think tank to explore new and innovative audio projects and also as a central service organization, helping other projects in the School of Cinematic Arts to fully realize their advanced audio goals. This lab will be truly experimental and will work across all different types of mediums and areas such as gaming, narrative, embedded and enchanted objects, augmented reality, virtual reality, physical spaces and installations, mobile, world building, experimental cinema, and more.

Chanel serves as Artist in Residence/Artistic Director at Forest Ridge School of the Sacred Heart where she has been working with them to create programs that move the school towards a more technological, project-based, collaborative educational effort, including producing a series of summer workshops teaching students the aesthetics of audio for video game production and a blended/collaborative learning program incorporating American Literature and Sound Design. Currently, Chanel is working with the school to develop a curriculum centered around world building and the future of narrative media and is also a member of the Forest Ridge Innovation Task Force. Chanel is the Co-Founder & Managing Editor of a new online magazine, community, and portal dedicated to the art, craft, and technique of composing music for video games and interactive media, with the aim of sharing information and knowledge in an open and collaborative manner.