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Fall 9-1-2022

### THTR 565.01: Graduate Sound Design

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# THTR 565-01 – Graduate Sound Design

Fall Term 2022, Tuesday, Thursday, , 11:00-12:20, 3 Credit Hours

School of Theatre and Dance

Final Exam Period Monday, December 12<sup>th</sup>, 10:10am-12:10PM

McGill 213, PARTV 097 and other spaces TBD

Instructor: Mike Post

Office: PARTV 193, [mike.post@umontana.edu](mailto:mike.post@umontana.edu)

Office Hours: T-TH 11:30am-1:00PM

Sound Design is well established in live performance with designers being one of the regular participants in any production process. Sound designers are often thought of as being responsible for all sound in the show, including actor's voices inasmuch as the text needs to be heard clearly. Sound designers underscore, punctuate and otherwise enhance a story.

While there are support staff positions available for professional Sound designers, the majority of the positions available will require that the designer be their own engineer. To that end, this class will explore the technology and how to work with it along with the design and craft of sound.

## ***Text***

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There is no required text for this class. Students are encouraged to obtain a copy of the Yamaha Sound Reinforcement Handbook by Gary Davis and Ralph Jones as a reference.

## ***Tools and Materials***

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Students will need access to a computer for managing paperwork and researching equipment as well as acquiring, processing and presenting sound. The computers in the CAD and Studio Labs have all the necessary software and capabilities to facilitate this.

Students need to own a flash drive to transfer projects from the lab to the studio as well as having a backup of their work.

## ***Outcomes***

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Gain an understanding of Sound physically and as an aesthetic element for Performance

Gain an understating of the equipment for handling playback, and recording

Gain an understanding of digital playback using QLab

Gain an understanding of technologies for Sound such as Microphones and Mixing consoles

Gain an understanding of how to engineer and operate a system for Live Reinforcement

Gain an understanding of the process of designing Sound for Live Performance

Gain an understanding of more advanced research techniques for sound and music for production

*Class Schedule*

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<b>Date</b>		<b>Topic</b>	
Tuesday	Aug 30	Sound Basics Very Basic Vocabulary. Tour the lab.	
Thursday	Sep 1	Sound System Components	
Tuesday	Sep 6	Sound systems and Audacity	
Thursday	Sep 8	QLab Basics	
Tuesday	Sep 13	Sound System Diagrams and Speaker plots. CAD <b>(Via Zoom)</b>	Mike Out
Thursday	Sep 15	Digital Audio <b>(Via Zoom)</b>	Mike Out
Tuesday	Sep 20	In class work on Environments and System Diagram (Mike available via Zoom)	Mike Out
Thursday	Sep 22	In class work on Environments and System Diagram (Mike available via Zoom)	Mike Out
Tuesday	Sep 27	Present Environments Montana System and Install Cabaret	<b>Environment Due System Diagram Due</b>
Thursday	Sep 29	Install Cabaret	
Tuesday	Oct 4	Install Cabaret	
Thursday	Oct 6	Gain Structure, Feedback and Balancing a System.	
Tuesday	Oct 11	Microphones	
Thursday	Oct 13	Microphones and Recording Techniques	
Tuesday	Oct 18	Recording Techniques	<b>Record Announcement</b>
Thursday	Oct 20	Live Mics and the PA	
Tuesday	Oct 25	Equalization, Compression Effects and Feedback	
Thursday	Oct 27	In Class Work on Recorded Announcement	
Tuesday	Nov 1	Present Recorded Announcements Discuss Cabaret	<b>Recorded Announcement Due Cabaret Critique due.</b>
Thursday	Nov 3	Speakers	
Tuesday	Nov 8	Elections – NO CLASS	

Thursday	Nov 10	Speakers and Monitoring Phasing Issues and Time Aligning	
Tuesday	Nov 15	Present Field Recording Musical Instruments and Sound (Electric Instruments, Pickups, Mic-ed Instruments)	<b>Field Recording Due</b>
Thursday	Nov 17	Audio Cables	
Tuesday	Nov 22	In Class Work on Audio Cables	
Thursday	Nov 24	Thanksgiving - NO CLASS	
Tuesday	Nov 29	Sound for Musicals	
Thursday	Dec 1	Sound for Concerts and Presentations	
Tuesday	Dec 6	In Class Work on the Final Project	
Thursday	Dec 8	In Class Work on the Final Project	<b>Cables Due</b>
<b>Tuesday</b>	<b>Dec 14<sup>th</sup> 8:00am</b>	<b>Present Final Project</b>	

### ***Projects***

Due dates for projects and exercises are listed in the course schedule. Projects submitted after the due date will be subject to a 5% penalty.

#### **Build an Environment (125 pts.)**

Design an environment. Conceive a situation for the need of a recorded track of sound as well as some spot effects. You must have an overall bed of sound along with specific imaging for sounds placed from certain speakers. Create 6 different sound ideas for the imaging, two of which need to “move” through the room. For example, an aircraft cabin. There’s the overall white noise of the plane, the sound of the call bell from the front, a person snoring behind you and to the right and a baby crying in the back. Build a QLab file to execute this in the Studio.

#### **System Diagram (125 points)**

With what you know about the Sound Studio, create a system diagram for a 4 channel surround with a QLab playback system. Use Vectorworks to lay this out. It should fit on an 8.5x11 piece of paper when you are done.

#### **Vocal Recording and Editing (100 pts.)**

Record someone speaking the text of an announcement, such as the preshow announcement for a production. Record at least 3 raw takes with as little noise floor as possible. Edit one of them to clean up any mistakes or overly long pauses. You must exchange one phrase in your final take with one that is better for another take. The final result must be between 45 seconds and 1 minute in length.

#### **Field Recording (100 pts)**

Check out the USB mic and a laptop and record 6 sources from the field.

- The campus at a distance
- Running water close mic-ed
- A busy street
- A squeak (door, shoes...)
- Two additional of your choosing – one close and one distant.

Process the samples to clean them up and present in class. You must submit both your raw sample and the processed versions

### **Makin' Cables (100 pts)**

Build 4 cables: A 6 foot unbalanced ¼" to ¼" instrument cable, a balanced XLR cable, a 2 foot NL4 Speaker Cable, and a 25 foot RJ45 CAT-6 Cable. All must be properly built for strain relief and pass a test with the cable tester.

### **Critique for *Cabaret* (100 pts)**

See *Cabaret* running in the Montana theatre from October 13<sup>th</sup> through the 23<sup>rd</sup>. Write a 2 page double spaced 12 point Times New Roman (or equivalent) paper critiquing the play with a focus on the sound. You can start with one or two paragraphs generally discussing how you felt about the production and then finish with more specific information about the sound and how it affected your viewing:

- Were the vocals clear?
- Was the music balanced with the vocals?
- Did any recorded effects enhance or distract from the show
- Were there any problems such as feedback, missed pickups, et. al.

We will also discuss this in class. Your paper is due before the discussion. Late papers will not be accepted

### **Cue List for *Crowns* (50 pts.)**

Generate a full cue list for your final project with a given format as a guide.

### **Mic Tracking for *Crowns* (50 pts.)**

Generate a full mic tracking sheet for your final project with a given format as a guide.

### **Final Project (150 pts.)**

Design *Crowns* from the given script. Full paperwork for playback and mic tracking. A system diagram and speaker plot are required. Build a QLab file intended to execute it on the system. You do not need to provide the actual sound for playback, but you do need QLab set up for it.

### **Graduate Study Project**

In addition to the above, students in this course will be required to research sound and music from specific eras and or regions. This will help them start to develop resources for this sort of research. More than simply composers, the region and period will have unique instrumentation and natural sounds that will impact the design and technology to support them. This research will explore those ideas.

## *Attendance*

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### **From UM President Seth Bodnar:**

The wide availability of safe, effective vaccines to combat COVID-19 means that we are able to continue full in-person learning again this semester. The Office of the President urges every member of the UM Family to get vaccinated (and receive a booster shot) if you haven't done so already. Vaccination provides the best means of protecting yourself – and others in our UM Family – from the risk of COVID-19.

Please visit <https://www.umt.edu/curry-health-center/corona-virus.php> for the latest health/safety information, as well as campus communications and plans about the global health pandemic.

Attendance in the class is mandatory. Absences must have a proper excuse such as a note from the Curry Center or other documentation. Otherwise, they will count off 2% of your grade per absence. Students who are absent, excused or not, will be responsible for making up missed material using documentation posted in Moodle.

## *University and School Policies*

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### ***Academic Misconduct and the Student Conduct Code***

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at [www.umt.edu/student-affairs/community-standards/default.php](http://www.umt.edu/student-affairs/community-standards/default.php)

### ***Theatre & Dance Policies***

All Theatre & Dance students must have an in-depth knowledge of the practices and procedures outlined in the School of Theatre & Dance Student Handbook. The Handbook is available online at <https://www.umt.edu/theatre-dance/handbook.php>.

There is inherent risk involved in many Theatre & Dance classes as they are very physical in nature. Please proceed through class, shop time, or rehearsal with caution. Always be mindful of your personal safety and the safety of others. Students participating in class/shop/rehearsal/performance do so at their own risk.

Due to safety considerations, at no point during a student's time spent in class or serving on a production (in any capacity) should non-enrolled persons be guests of that student without my consent. Presence of such unauthorized persons in a class, shop, or any backstage/off-stage area will negatively affect a student's grade.

### **From the EO/AA Office:**

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equality (ODE). "Reasonable" means the University permits no

fundamental alterations of academic standards or retroactive modifications. For more information, please consult <https://www.umt.edu/disability/default.php>

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