Communication Arts CMAT 354 Advanced Audio Production

Fall 2018 TH 12:30PM - 3:15PM CH 335

prerequisite: cmat 234

Dr. Andrew Sharma CH 306 410-677-5037

http://faculty.salisbury.edu/~axsharma email: axsharma@salisbury.edu

office hours: Tue 12:30 – 3:30p; Wed 11:00 – 1:00p.

COURSE DESCRIPTION

This is an intensive advanced level audio production course. The purpose of this course is to advance the student's broad audio knowledge and production abilities in creative sound recording/mixing/processing/editing and sound design. The course will emphasize: Audio for Media, Applied media aesthetics, Sound design, Creative and artistic approaches to various types of sophisticated audio production including music recording, radio production and audio for other media – video, film, new media).

REQUIRED MATERIALS

Text: Alten, S. (2014). Audio in Media (10th Ed.). Belmont:Wadsworth.

COURSE REQUIREMENTS

Participation (attendance, contributions to discussions and projects) counts in the class. Two absences drop the participation grade to a maximum grade of 70%, three to 60%, four to 50%, etc. Habitual lateness and other disruptive behavior will also affect this grade.

Late assignments will lose 50% off the total grade for each day over the deadline.

EVALUATION/GRADING

Audio Projects: 400
Readings: 230
Participation: 100
Microphone Assignment: 20
Total: 750

Range: A: 750-675 B: 674-600 C: 599-525 D: 524-450 F: < 450

Academic Integrity

The best learning environment is one based on mutual respect and trust. However, the desire to achieve a good or passing grade without doing the necessary work may tempt some students to engage in acts of "academic dishonesty," including plagiarism, cheating on exams, unsanctioned collaboration with other individuals and falsifying excuses for non-attendance. If you are unclear about what constitutes academic dishonesty, including plagiarism, please ask – ignorance is no excuse. Discovery of academic dishonesty results in stiff penalties for the offender, including a failing grade for the assignment in question and often a grade of F for the course. The university catalogue and student handbook provide further details.

CLASS SCHEDULE ***CMAT 354 Advanced Audio Production***

Aug 30 Orientation; logistics. In class exercise: Audio gear; Collect sounds

Sep 06 ProTools Refresher: In class exercise
Reading 1 *Alten: Chapter 1, 2*

Sep 13 Frequency/amplitude/sound waves/microphones (review) Shoot Project 1
Reading 2 *Alten: Chapter 3, 4*

Sep 20 Consoles/Control Surfaces/Recording Edit Project 1
Reading 3 *Alten: Chapter 5, 6*

Oct 27 Sound for film/video. Compression, signal processing, reverb. ADR Project 1
Reading 4 *Alten: Chapter 7, 8*

Oct 04 Sound Design; Location Recording; Dialogue **Project 1 Due**
Reading 5 *Alten: Chapter 11, 12*

Oct 11 Studio Recording; Voice overs and Narration *Critique Project 1*
Reading 6 *Alten: Chapter 9, 13* Project 2*:* Spot

Oct 18 SFX; Music Underscoring; Compression/Equalization
Reading 7 *Alten: Chapter 16, 17* Project 2: Create/Collect SFX/FOLEY

Oct 25 ADR/Foley; SFX Editing Project 2: Create/Collect SFX/FOLEY
Reading 8 *Alten: Chapter 15, 21*

Nov 01 Mixing for Film/TV Project 2: Sound Edit SFX/FOLEY
Reading 9 *Alten: Chapter 22, 23*

Nov 08 Music production; Amplitude/Dynamics Project 2: Sound Edit SFX/FOLEY
Reading 10 *Alten: Chapter 20*

Nov 15 Multi-track Recording Project 3 **Project 2 Due.**
Reading 11 *Alten: Chapter 10, 14*

Nov 22 Thanksgiving. No Class

Nov 29 Multi-track Recording Project 3 *Critique Project 2*
Reading 12 *Alten: Chapter 24, 25*

Dec 06 Multi-track Recording **Project 3 Due**

Finals Week *Critique Project 3*

Communication Arts CMAT 354 Advanced Audio Production

Text READINGS
For each week, answer the listed questions in detail in at least **TWO, FULL typed double-spaced page for each reading**.

READING 1

Chapter 1 — Sound in Production

1. What is "dynamic range?" How is this useful to sound productions?
2. When all sonic elements are unambiguously localized and well-placed in the stereo or surround sound field then proper spatial balance and perspective has been achieved. Explain.

Chapter 2 — Sound and Hearing

1. Explain the equal loudness principle
2. Describe the four stages of the sound envelope
3. Explain the relationship of frequency and pitch

READING 2

Chapter 3 — Acoustics and Psychoacoustics

1. Explain the differences between direct, early, and reverberant sound
2. What is the difference between a "live" and a "dead" room?

Chapter 4 — Loudspeakers and Monitoring What is a cross-over network

1. Explain the difference between active crossover networks as compared to a passive crossover network.
2. Explain "Linearity" in a loudspeaker

READING 3

Chapter 5 — Microphones

1. Explain the principles of impedance and its relation to microphone usage
2. Describe the various directional characteristics of microphones.
3. What is the proximity effect?

Chapter 6 — Mixers, Consoles, and Control Surfaces

1. Describe the differences between a digital console and an analog console
2. Describe the differences between a digital console and a digital control surface

READING 4

Chapter 7 — Recording

1. Explain the difference between analog and digital recording
2. To digitally encode the highest frequency in a signal successfully, it has to be sampled at a rate at least twice its frequency. Explain
3. Explain the terms Sampling rate and Quantizing
4. Explain what is meant by Lossy and Lossless in compression

Chapter 8 — Synchronization and Transfers

1. Explain the common time codes standards of SMPTE and MIDI
2. Explain the difference between Drop Frame and Non-Drop frame

READING 5

Chapter 11 — The Speaking Voice, Voice-Overs, and Narration

1. Explain the advantages and disadvantages of the various microphone types and miking techniques used in the studio miking of speech;
2. Explain the phasing issues of using multiple microphones and how the three-to-one rule can help correct these issues;

Chapter 12 — Dialogue

1. Describe how to use the single-microphone technique in creating perspective and movement in dialogue recordings
2. Explain the advantages and disadvantages between the single- and multimicrophone techniques in producing dialogue recordings
3. Describe what to look and listen for when conducting a location survey for sound recording

READING 6

Chapter 9 — Signal Processors

1. Describe the operation of spectrum signal processors, including filters and equalizers
2. Describe the operation of time signal processors, including reverb and delay systems
3. Describe the operation of dynamic processors, including compressors, limiters and noise gates

Chapter 13 — Studio Production: Radio and Television

1. Explain these miking methods: coincident miking; near- coincident miking
2. Explain the differences in space and perspective between monaural, stereo and surround sound

READING 7

Chapter 16 — Sound Effects

1. Describe techniques for Foleying sound effects
2. Explain with examples: diegetic sound and nondiegetic sound

Chapter 17 — Music Underscoring

1. Identify and explain the functions of underscoring
2. If a clown performing at a circus is underscored with classical music from a ballet, the music is "providing counterpoint." Explain.

READING 8

Chapter 15 — Sound Design

1. Identify and explain the components of sound structure and their effects of perception
2. Identify and explain the classifications and functions of speech, sound effects, and music
3. Describe the various functions of sound in relation to picture

Chapter 21 — Editing

1. In editing dialogue, what is meant by "ring off?" How is this a problem?
2. What is Additive ambience? Is this ever a problem? How? Why?

READING 9

Chapter 22 — Mixing: An Overview

1. Describe mixing considerations for radio, television, film, music, digital disk and multimedia;
2. Explain the concepts of mixing and layering;

Chapter 23 — Premixing and Recording for Television and Film

1. Explain the requirements of premixing for television and film sound to prepare for rerecording;
2. Describe the rerecording mix process for television sound and for film sound;

READING 10

Chapter 20 — Music Recording

1. Explain the basic differences between distant, close, and off-miking;
2. Describe different techniques for stereo miking in music recording;
3. Explain the basic techniques for close miking and off-miking of various acoustic musical instruments;

READING 11

Chapter 10 — Audio and the Internet

1. Explain the quality and capacity issues with distributing audio over the Internet
2. Describe the benefits, drawbacks and methods of reducing audio file size;
3. Identify and explain the varying formats of digital audio file compression;

Chapter 14 — Field Production: News and Sports

1. In a stand-up report from the field, to get a more realistic sense of the talent in relation to the sonic environment, the omnidirectional microphone usually recommended. Why?
2. What is the inverse square law?

READING 12

Chapter 24 — Music Mixdown

1. Describe how to effectively apply equalization, compression and reverberation signal processing to the individual tracks for the overall mix;
2. Describe techniques for mixing stereo and surround sound spatial imaging of music;

Chapter 25 — Mixing for Mobile Media

1. Explain how equalization, compression and normalization can be used to effectively mix sound for mobile media;
2. Comment on this paradox: The technology exists to produce very high quality audio, yet most listeners prefer low quality compress audio formats.

CMAT 354 Advanced Audio Production

AUDIO PROJECTS

Project 1 Location Recording 100 points
Shoot and Mix cinematic dialogue using the provided script. There should be a master scene, followed by "coverage" or closer angles, including medium shot and singles. Shoot picture with a video camera. Record audio as double system onto an audio recorder and combine the audio with video in post. Picture edit using Avid Media Composer; Audio edit in ProTools.
Add ADR to finish the scene. Bounce the project in PT as a Quick Time file. Save the PT Session Files and the QT in the appropriate Grade me folder in AVID.

Project 2 Foley/SFX Project 200 points
Create an accompanying soundtrack of music, foley and sound effects to a pre-recorded film scene. The focus is to create a complete soundtrack for the scene. Use all original sounds (including music). Spot the entire clip. Be very thorough and detailed. Everyone in the team does the spotting for the entire clip. Bounce the project in PT as a Quick Time file. Save the PT Session Files and the QT in the appropriate Grade me folder in AVID. Provide a written narrative explaining your concept and how you created the original sounds.

Project 3 Multi-track Music Production 100 points
Produce a musical recording on compact disc using the recording studio. These projects should be minimum 3 minutes in length and feature live instruments and vocals. Once taping sessions are complete, use ProTools to enhance and mix the project. Save the PT Session files in the appropriate Grade me folder in AVID. Bounce the music as .wav on CD and submit.
Each member of the team: write a two page paper on
1. The recording process: What you did; How you did it;
2. Mixing: What you did, How you did it and more importantly Why you did it.