

Syllabus for  
**MMC 312—Advanced Audio Production**  
3 Credit Hours  
Fall 2008

I. COURSE DESCRIPTION

Designed to amplify and focus student interest and study in a specific technical area of television and film. Through lectures, lab, class demonstrations, and projects, the student develops skill and knowledge in the technical and artistic aspects of audio and sound recording techniques for film and television.

Prerequisites: MMC 127, junior or senior standing, and major in MMC with MULT concentration.

Course fee: \$40

II. COURSE GOALS

- A. In order to more thoroughly prepare the student of mass media communications, this course seeks to give the student a more in-depth study of audio. As the vast industry of multi media production expands, the move is toward specialization.
- B. Although one course cannot hope to make a person a specialist, it does provide one with the opportunity to gain a more extensive understanding of the work in a particular area.
- C. This course seeks to equip the student to record sound for various situations he or she will encounter in the many fields now utilizing multi media production.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

A. Terminal Objectives

At the successful completion of this course, the student will be able to do the following:

- 1. Describe the nature of sound.
- 2. Describe the principles of acoustics and how they relate to audio recording.
- 3. Plot music and speech in the audible sound spectrum.
- 4. Identify and describe the five types of microphones and their operational characteristics.
- 5. Identify and describe four microphone patterns and their application in sound recording.
- 6. Identify and describe various types of sound equipment and their use: speakers, connectors, cables, tape, audio boards, tape recorders, patch panels, microphone mountings, and accessories.
- 7. Describe the principles of audio mixing, processing, and editing.
- 8. Describe the proper selection and placement for various sound recording situations including small group, large group, dramatic, interview, and panel discussion.
- 9. Describe the physical plant, equipment, acoustics, operation, and terminology of the recording studio.
- 10. Demonstrate audio skills in the role of audio engineer for a semester project.

B. Weekly Objectives

As a result of successfully completing the session objectives, the student will be able to do the following:

*Last revision: Fall 2008*

- 1. Session One

- a. Define sound scientifically.
  - b. Define the following terms:
    - (1) hertz
    - (2) frequency
    - (3) amplitude
    - (4) Fletcher-Munson Curve
    - (5) db
  - c. Define "dynamic range."
  - d. Plot the frequency response for the human ear from birth to adulthood.
  - e. Plot the relative frequencies of various sound sources within the audible sound spectrum.
2. Session Two
- a. Describe direct sound and the various standing waves.
  - b. Describe the sound reflective and absorption qualities of various materials.
  - c. Describe how the layout of a stage or room affects sound quality.
  - d. Describe the physical layout and the acoustics of the recording studio.
3. Session Three
- a. Identify and describe five microphone constructions and describe how a microphone turns sound waves into electrical impulses.
  - b. Identify four microphone patterns and plot a polar diagram for each type.
  - c. Describe "frequency response" as a characteristic of microphones.
  - d. Identify and describe the use of the following microphone accessories: boom, stands, gooseneck, adapters, and other related equipment.
  - e. Describe the microphone placement for vocal/voice and various instruments.
  - f. Describe placement of mike lines and trouble shooting.
  - g. Describe impedance level matching and the standard wiring for microphone cables.
4. Session Four
- a. Describe the construction and function of audio boards and mixers for the following: TV/Radio, PA, Multitrack.
  - b. Describe the function of a pad and notching levels.
  - c. Describe recording studio equipment and how to select it.
  - d. Describe the difference in terminology between TV and Film and the sound recording studio.
5. Session Five—Demonstrate mastery of objectives listed for weeks 1-4 on Exam I.
6. Session Six
- a. Describe the general principles of magnetic recording.
  - b. Describe the operation of professional recording machines.
  - c. Describe and list how to set up a machine for recording.
  - d. Describe how audio is recorded on videotape.
  - e. Define "signal to noise" ratio.
  - f. Define "dynamic range."
  - g. Define "headroom."
  - h. Describe the DBX and Dolby noise reduction systems.
7. Session Seven
- a. Describe equalization and its use in audio processing.
  - b. Define and describe natural reverberation.
  - c. Define and describe artificial reverberation.
  - d. Describe digital and tape delay reverberation.
  - e. Outline several special effects in audio and how they are produced.

8. Session Eight
  - a. Describe how a public address interfaces with TV audio and the problems involved with it.
  - b. Describe foldback and stage monitoring systems.
  - c. Describe the construction of a moving coil speaker.
  - d. Describe the different uses for different speaker designs.
9. Session Nine
  - a. Describe two basic approaches to making live music.
  - b. Describe the various microphone arrays for live recording.
  - c. Define the three-to-one rule.
  - d. Define "MIDI" and its function in the recording process.
10. Session Ten
  - a. List the goals that are to be achieved in the mixing and rerecording process.
  - b. Describe the process of balancing the microphones or mixing.
  - c. Describe how and when to use a compressor/limiter.
  - d. Describe the process of setting an audio level: RMS level and peak level.
11. Session Eleven—Demonstrate mastery of objectives listed for weeks 6-10 on Exam II.
12. Session Twelve
  - a. Describe the visual problems in sound recording/reproduction in TV and film.
  - b. Discuss the file formats used for internet production and streaming vs. non-streaming.
  - c. Describe stereo and surround sound as they interface with monaural television.
13. Session Thirteen
  - a. List and describe the necessary equipment for recording sound on location for TV and/or film.
  - b. Describe the various micing arrays for recording sporting events and other outdoor activities.
14. Session Fourteen
  - a. Describe and demonstrate physical audiotape editing.
  - b. Describe multitrack syncing to video techniques.
  - c. Describe the SMPTE time code and its use in postproduction in TV.
15. Session Fifteen  
Final production practice.
16. Session Sixteen—Demonstrate mastery of objectives listed for weeks 12-15 on Exam III.

#### IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

Required Materials

Textbooks: None

#### V. POLICIES AND PROCEDURES

##### A. University Policies and Procedures

1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software. By submitting an assignment in any form, the student gives

- permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means.
4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
  5. Students are to be in compliance with University, school, and departmental policies regarding ePortfolio requirements. Students should consult the ePortfolio handbooks for requirements regarding general education and the students' majors.
    - a. The penalty for not submitting electronically or for incorrectly submitting an ePortfolio artifact is a zero for that assignment.
    - b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.

B. Department Policies and Procedures

1. **Attendance**—At Oral Roberts University, students are expected to attend all classes. Understanding that there are sometimes unavoidable circumstances that prevent perfect attendance, each student is allowed to miss class the number of times per week a class meets. This allowance is for illness, personal business, and personal emergency. Students may consider this personal days or sick leave. If a student has absences in excess of this number, the earned grade for the course will be reduced one letter grade for each hour's absence above those allowed. A student missing class due to illness must take an unexcused absence. Extended illnesses are handled on an individual basis and require a doctor's excuse.
2. **Administratively Excused Absences**—Students who must miss class for University sponsored activities must follow these procedures:
  - a. inform the professor before the event.
  - b. arrange to complete missed work within one week.
  - c. not commit to class performances (oral reports, speeches, television tapings, group presentations, etc.) on a date the student will be gone. Makeup work is not permitted if the student voluntarily commits to a performance on the date of an administratively excused absence.
  - d. present an excuse, signed by the Dean of Arts and Sciences, the day the student returns.
3. **Tardies**—Tardies are an inconvenience to the other class members and the professor, and they prevent the late student from obtaining maximum value from the class. Therefore, tardies are calculated in the attendance provision for this course. Three tardies equal one absence and are included in the absences when determining the course grade. It is to the student's advantage to make sure that the professor is informed immediately following the close of the class that the student was tardy and not absent. It is not the professor's responsibility to stop the class to mark the student late; the student is the one responsible to convey that information following that class. Students should not expect to be credible the following class session concerning a late arrival on a previous day.
4. **Late Work**—The student is responsible for obtaining class assignments and material covered during an absence. All work must be completed as scheduled. An absence is not an excuse for turning in late work or for being unprepared with assignments for the class following the absence. If late work is accepted, a substantial penalty will be assessed.
5. **Literacy**—The Communication Arts Department does not accept for credit any written assignment that contains more than an average of three grammatical and/or typographical errors per page.
6. **ePortfolio**—Refer to the Communication Arts ePortfolio handbook for ePortfolio policies at (<http://oru.edu>), click on **Academics**, then **ePortfolio**, then **Department**

**Resources, then Communication Arts Handbook HTML.**

**C. Course Policies and Procedures**

**1. Evaluation Procedures**

**a. Exams**

Three exams are given—two unit exams and a final. Exams comprise 75% of the final grade for the course.

**b. Projects**

A semester project is required of each student. Most projects are practical in nature and are directly involved with application of class material. The project comprises 25 percent of the course grade.

**c. Papers**

Three papers are required—one due at the time of each exam. Length and subject material will be discussed in class.

**2. ePortfolio Requirements: None**

**3. Other Policies and/or Procedures**

Any examination not taken at the scheduled time due to an excused absence must be made up at a time arranged with or by the instructor. Generally, tests missed for an unexcused absence cannot be made up. The University's \$15.00 late-test fee must be paid in advance.

**VI. CLASS CALENDAR**

**READ**

Week 1	Audio Principles Review	Chapters 1-5
Week 2	Audio Principles Review	Chapters 6-10
Week 3	Sound Design	Chapter 11
Week 4	Studio Production	Chapter 12

Week 5	EXAM I	
Week 6	Field Production	Chapter 13
Week 7	Staged Productions	Chapter 14
Week 8	Music Production	Chapter 15
Week 9	Internet Production	Chapter 16
Week 10	Dialogue, Sound Effects, and Music in Production	Chapter 17
Week 11	Exam II	
Week 12	Editing	Chapter 18
Week 13	Mixing and Rerecording	Chapter 19
Week 14	Occupations in Audio	Appendix A
Week 15	Production Practice	
	EXAM III	PROJECTS DUE

### Course Inventory for ORU's Student Learning Outcomes

#### MMC 312—Advanced Audio Production Fall 2008

This course contributes to the ORU student learning outcomes as indicated below:

**Significant Contribution** – Addresses the outcome directly and includes targeted assessment.

**Moderate Contribution** – Addresses the outcome directly or indirectly and includes some assessment.

**Minimal Contribution** – Addresses the outcome indirectly and includes little or no assessment.

**No Contribution** – Does not address the outcome.

The Student Learning Glossary at <http://ir.oru.edu/doc/glossary.pdf> defines each outcome and each of the proficiencies/capacities.

<b>OUTCOMES &amp; Proficiencies/Capacities</b>		Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
<b>1</b>	<b>Outcome #1 – Spiritually Alive</b> Proficiencies/Capacities				
1A	Biblical knowledge			X	
1B	Sensitivity to the Holy Spirit			X	
1C	Evangelistic capability		X		
1D	Ethical behavior		X		
<b>2</b>	<b>Outcome #2 – Intellectually Alert</b> Proficiencies/Capacities				
2A	Critical thinking		X		
2B	Information literacy	X			
2C	Global & historical perspectives			X	
2D	Aesthetic appreciation	X			
2E	Intellectual creativity	X			
<b>3</b>	<b>Outcome #3 – Physically Disciplined</b> Proficiencies/Capacities				
3A	Healthy lifestyle			X	
3B	Physically disciplined lifestyle			X	
<b>4</b>	<b>Outcome #4 – Socially Adept</b> Proficiencies/Capacities				
4A	Communication skills	X			
4B	Interpersonal skills	X			
4C	Appreciation of cultural & linguistic differences		X		
4D	Responsible citizenship			X	
4E	Leadership capacity	X			