SYLLABUS

MUSIC 220 - AUDIO RECORDING
FALL QUARTER, 2001
STEVE TURNIDGE, INSTRUCTOR
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OFFICE HOURS, Mondays and Wednesdays 3:30 P.M. – 4:30 P.M.

Section 01 **meets** Mondays and Wednesdays from 12:30 P.M. to 1:45 P.M. in room 806. Section 02 meets on Mondays and Wednesdays from 2:00 P.M. to 3:15 P.M. in room 806. Three credits are awarded upon successful completion of the course. There are no required pre-requisites for the course however English 101 is recommended.

The **course objective** is to introduce students to audio mixing and recording. This will be accomplished in a lecture/demonstration format that will include hands-on learning opportunities for the students. This course is designed as the first of a six-course sequence available at the college. It is a requirement for completion of the associate degree in audio engineering and digital audio.

An approximate **course outline** for Music 220, AUDIO ENGINEERING, appears below.

Week 1 - Introductions, syllabus distribution, course registration corrections and additions. A brief overview of the class and how it fits into the various degree options. The recording chain as a process and a business.

Week 2 - An introduction to acoustics. An analysis of sound. Wave propagation theory as it relates to sound. Waveform terminology including pitch vs. frequency and loudness vs. amplitude. The threshold of hearing vs. the threshold of pain and the biology of the human hearing system.

Week 3 - The harmonic overtone system including the fundamental, overtones, partials, inharmonic tones and their relationship to timbre. Sound envelopes and interior dynamics including attack, decay, sustain, and release.

Week 4 - Measuring the loudness levels using the decibel scale. Metering systems including R.M.S. and peak. Direction perception and the binaural effect, the beating effect, the masking effect, and the Doppler effect.

Week 5 - The Fletcher Munson curves, the Eyring equations, studio acoustics and basic studio construction considerations. Single wall, staggered studs, and double wall techniques. Standing waves and how to avoid them. Near-field vs. far-field monitoring. The 85 decibel monitoring standard.

Week 6 - Introduction to electricity and electronics in theory and practice. What electricity is and how it works. Resistance, voltage, current, watts, and impedance as it relates to audio. Alternating vs. direct current, Ohm's Law and it's applications.

Week 7 - Introduction to microphones by tracing their history and development. Carbon microphone, ceramic microphone, and crystal microphone designs lead into modern microphone designs like ribbons and moving coils.

Week 8 - More recent microphone technology is introduced with condenser and various pressure zone designs. Polarity response patterns, impedance, and

specifications will be covered. Specialized microphone designs including parabolic, shotgun, and surveillance applications.

Week 9 - Stereo microphone techniques vs. multi-track techniques. Stereo microphone placement configurations including A/B, M/S, and X/Y. Multi-microphone set ups, phase cancellation, and the three to one rule. Close vs. distant placements and the multi-track studio session vs. the live sound reinforcement venue.

Week 10 - Microphone techniques for specific instruments in specific situations. Specific microphone techniques for recording or reinforcing strings, brass, woodwinds, percussion, keyboards, guitars, and drums. Several complete microphone set-ups in a variety of musical situations will be presented.

Grading is based on scores in two areas. Area one is the combined scores on all written exams and accounts for 80% of the final grade. Area two is based on attendance, participation, punctuality, and dependability throughout the quarter and accounts for 20% of the final grade.

Any irrefutable evidence of **cheating** or **plagiarism** (turning in work that is not your own) on the part of a student will result in non-acceptance of the assignment or examination.

Requests for **excused absences** must be made before the scheduled class time and any subsequently missed tests or assignments completed before the next regularly scheduled class meeting.

The required **textbook** for this course is *"Modern Recording Techniques"* (5th edition), written by David Huber and is available in the college bookstore.

Students may be asked to **purchase** one (and possibly two) high quality cassette tapes on which to submit hands-on recording projects for evaluation. Every effort will be made to return all cassettes to their original owners but the instructor does NOT assume responsibility for project tapes. It is the students' responsibility to make back-up copies of valuable recordings. Students are also expected to provide all note-taking materials as well as a storage/retrieval system for class handouts. Most handout materials will be punched for a standard three-ring binder.

In **inclement weather** conditions listen to KIRO or KING radio for official school closure announcements.