

Form Version: February 2001

EFFECTIVE TERM: Fall 2002

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 x Transfer Course

 x A.A.degree applicable course

COURSE NUMBER AND TITLE: MUS 181 Computer Music II

UNIT VALUE: 3 **MINIMUM NUMBER OF SEMESTER HOURS:** 96

BASIC SKILLS REQUIREMENTS:

Appropriate language skills.

SCOPE OF COURSE:

An overview of digital audio techniques. Topics in sound synthesis, sound design, and sampling.

ENTRANCE REQUIREMENTS:

PREREQUISITE: MUS 180

COREQUISITE: NONE

RECOMMENDED PREPARATION: NONE

SPECIFIC COURSE OBJECTIVES:

Upon completion of this course successful students will have:

1. Identified and worked with digital audio hardware and software;
2. Recorded and edited original sound samples at a digital audio workstation;
3. Created sounds with a variety of fundamental sound synthesis techniques including additive, subtractive, and frequency modulation;
4. Created sounds with granular synthesis techniques;
5. Created sounds with physical modeling techniques;
6. Mixed and recorded a composition to compact disk and mp3 format.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction to digital audio workstations (DAWS).
- II. Recording sound samples in digital audio workstations (DAWS).
 - A. File management in digital audio software.
 - B. Editing sampled sounds in digital audio software.

- C. Digital signal processing (DSP) in digital audio software.
- III. Fundamental synthesis techniques utilizing both hardware and software.
 - A. Building oscillators.
 - B. Working with filters.
 - C. Frequency Modulation (FM) synthesis.
- IV. Advanced synthesis techniques utilizing both hardware and software.
 - A. Granular synthesis
 - B. Physical modeling
- V. Integrate sampling and synthesis techniques to create a musical composition.
- VI. Importing MIDI files to digital audio recording sessions.
- VII. Mixing and panning techniques in digital audio workstation.
- VIII. Record final project to compact disk and mp3 format.

REQUIRED READING:

Dodge, Charles and Thomas A. Jerse. *Computer Music: Synthesis, Composition and Performance*. Second edition. New York: Macmillan Library, 1997.

SUGGESTED READING:

Pohlmann, Ken C., *Principles of Digital Audio*. Fourth edition. New York: McGraw-Hill, 2000.

Roads, Curtis. *The Computer Music Tutorial*. Cambridge: The MIT Press, 1996.

The Computer Music Journal. A periodical published by The MIT Press. This journal is focused on advanced topics in computer music science.

REQUIRED WRITING:

This is a laboratory course and does not require any written reports. There are frequent quizzes, five lab assignments, four semester projects and a final exam.

The lab assignments are:

1. Record sounds from the synthesizer into the digital audio workstation and demonstrate file management with the digital audio software.
2. Edit and filter sound files with the digital audio software.
3. In class demonstration of fundamental synthesis techniques
4. In class demonstration of advanced synthesis and audio morphing techniques.
5. Import a MIDI file to a digital audio recording session

The semester projects are:

1. Two minute composition built with sampled sounds in digital audio work station.
2. Palette of three sounds using fundamental synthesis techniques
3. Palette of three sounds using advanced synthesis techniques.

4. Five minute composition, utilizing created sounds, recorded and modified in digital audio workstation. This composition will be mastered for a CD, and converted to mp3 format.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Work on above outlined projects.

INSTRUCTIONAL METHODOLOGY

Check all that apply:

- lecture
 laboratory
 lecture-laboratory combination
 directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (video one-way, e.g. ITV, video cassette, etc.)
 Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
 Two-Way Video Conferencing (Two-way interactive video and audio)
 One-Way Video Conferencing (One-way interactive video and two-way interactive video)
 Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY:

10% for each project (10)

10% for final project

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes: No: Number of times course may be taken for credit: 1.

If yes, identify specific provision of Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

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SIGNATURES ON FILE