College of San Mateo
Official Course Outline

1. **COURSE ID:** MUS. 290 **TITLE:** Electronic Music I **C-ID:** CMUS 100X (MUS. 290 & 291)
   Units: 3.0 units **Hours/Semester:** 32.0-36.0 Lecture hours; 48.0-54.0 Lab hours; 64.0-72.0 Homework hours; 144.0-162.0 Total Student Learning hours
   Method of Grading: Grade Option (Letter Grade or Pass/No Pass)

2. **COURSE DESIGNATION:**
   Degree Credit
   Transfer credit: CSU; UC

3. **COURSE DESCRIPTIONS:**
   Catalog Description:
   Learn to create, produce and record music in a variety of genres using current music technology. Gain hands-on experience in electronic music studio techniques including: digital recording, audio editing, signal processing, mixing, sampling, MIDI, synthesizers and drum machines. Acquire a historic perspective of the development of electronic music and an understanding of acoustics as applied to music production. Develop your listening skills and your appreciation for a wide variety of electronic music and for the world of sound. Great introductory course for aspiring singer/ songwriters, musicians, composers, producers, sound designers and sound artists. No previous musical experience necessary.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
   Upon successful completion of this course, a student will meet the following outcomes:
   1. Understand the basic functions and uses of various electronic music equipment including microphones, mixers, amplifiers, speakers, computer music software and hardware, MIDI synthesizers, drum machines and effects processors.
   2. Mix audio tracks.
   3. Record and edit high quality digital audio tracks.
   4. Use MIDI (Musical Instrument Digital Interface) instruments in a musical context.
   5. Create an original composition using electronic music techniques.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
   Upon successful completion of this course, a student will be able to:
   1. Understand the basic functions and uses of various electronic music equipment including microphones, mixers, amplifiers, speakers, computer music software and hardware, MIDI synthesizers, drum machines and effects processors.
   2. Mix audio tracks.
   3. Record and edit high quality digital audio tracks.
   4. Use MIDI (Musical Instrument Digital Interface) instruments in a musical context.
   5. Create an original composition using electronic music techniques.

6. **COURSE CONTENT:**
   Lecture Content:
   Topical Outline

   Physics of Sound
   Acoustics and Electroacoustics
   Transduction
   Electronic Music History
   Development of Electronic Music
   Musique Concrete
   Synthesis and Sampling
   MIDI
   Influence of MIDI
   MIDI Specification
   MIDI Sequencing
   Electronic Music Hardware, Software in the Future

Algorithmic composition
Interactive Electronic Music
Experimental Electronic Musical Instruments
Studio Planning

Budget
Equipment Evaluation
Design
Electronic Music Listening

Historic Pieces
Contemporary Works
Student Works
Electroacoustic Composition and strategies for combining technical knowledge and creativity into musical projects

Lab Content:
Audio Signal Flow in the Studio

Recording
Basic recording techniques and signal processing
Audio Editing
Mixer techniques
Comparison of microphones
Multi-tracking
Using Electronic Music Instruments
Drum Machines
Synthesizers
Samplers
Electroacoustic Composition

Concert Production

Performance

7. **REPRESENTATIVE METHODS OF INSTRUCTION:**
Typical methods of instruction may include:
A. Lecture
B. Lab
C. Other (Specify): 1. Lectures: incorporate presentations, discussions and analysis of contemporary and historical electronic music practices and technologies. 2. Labs: provide demonstrations and hands-on instruction in pertinent electronic music techniques including: mixing, audio editing, signal processing, sampling, MIDI sequencing, using hardware and software synthesizers and drum machines. 3. Listening Activities: musical examples of numerous electronic music genres and eras are presented and analyzed in the classroom and the lab. 4. Creative Projects: midterm and final projects give students the opportunity to combine theory, technology, and musical creativity into cohesive works. Works are critiqued by instructor and students.

8. **REPRESENTATIVE ASSIGNMENTS**
Representative assignments in this course may include, but are not limited to the following:
Writing Assignments:
Written reports describing the conceptual ideas and electronic music techniques used to create original projects/compositions
Reading Assignments:
Chapters from textbook
Portions of equipment manuals
Articles written by composers, electronic musicians, audio engineers and producers.
Other Outside Assignments:
Lab Assignments: Mixer Techniques, Field Recording, Studio Recording, Signal Processing, Hardware and Software Synthesizers, Drum Machine, Multi-tracking, Using MIDI

Creative Projects: Mixdown, Musique Concrete Project, Final Electronic Music Composition

9. **REPRESENTATIVE METHODS OF EVALUATION**
   Representative methods of evaluation may include:
   A. Final Class Performance
   B. Lab Activities
   C. Oral Presentation
   D. Quizzes
   E. Students are evaluated on the basis of: written quizzes, lab assignments, oral presentation, and creative projects.

10. **REPRESENTATIVE TEXT(S):**
    Possible textbooks include:
    A. Andrew Hugill. *The Digital Musician*, 3rd ed. Routledge, 2019
    B. Andrew Maz. *Music Technology Essentials*, 1st ed. Focal Press, 2023

Origination Date: October 2023
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Course Originator: Christine Bobrowski