

Sample Syllabus

Music Synthesis, Composition, and MIDI 1

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Required Course Materials

- 1 set of Headphones (1/4" jack)
- 1 CD-R for Final Project
- CD-R(s) and/or USB Flash Drive for Weekly Assignments

Description

An introduction to the use of computers and MIDI (Musical Instrument Digital Interface), using software sequencing and software synthesizers to compose, record, edit, and perform music. Aspects of MIDI, digital audio, and acoustics will be discussed, as well as the fundamentals of synthesizer programming.

Objectives

- Understanding of the fundamentals of computer composition using software sequencers and synthesizers
- Ability to use a MIDI controller
- Understanding of basic MIDI concepts
- Ability to program a software synthesizer
- Understanding of basic concepts of software synthesis
- Ability to program software synthesizers using subtractive synthesis
- Understanding of basic concepts related to Digital Audio

Students should be able to continually demonstrate competency with all assigned material.

Procedures

Classes will include lecture/demonstrations on computer music principles. Students will be given assignments each week and are expected to complete them in-studio between classes. Students are to sign in when using the studio, and are advised to schedule at least three hours of studio time per week for the semester. Students will present their work to the class for critiquing by the group each week.

Attendance

Attendance is mandatory. Students will be responsible for all material covered in class lectures.

Grading

There will be a Midterm and a Final Project in addition to the weekly assignments. The Midterm will be written and cover concepts and terms introduced from the lectures.

Student participation and progress through the semester will be an important factor in the grade. Any work that is handed in must be done in **pencil** (ink *will not* be accepted) and must be **very neat** (sloppy work will not be accepted). Pages must be clipped or stapled together. **Absence from class is not an excuse for not completing assignments.**

Late work will not be accepted.

The Final Project

The Final Project will consist of a CD that will demonstrate successful use of the MIDI workstation in creating a piece of music of fairly ambitious scope. Techniques in programming and sonic architecture will be judged in assigning a grade to the the Project. In addition to the Audio File, the Project Folder, any samples, a Program Note, an MP3 or RealAudio file set up for streaming audio, and an HTML page (for streaming audio) will be handed in as part of the final project.

Grading Scale

| | |
|-----------|-----------|
| A | 90 - 100% |
| B+ | 85 - 89% |
| B | 80 - 84% |
| C+ | 75 - 79% |
| C | 70 - 74% |
| D | 65 - 69% |
| F | 0 - 64% |

Grading Percentage Breakdown

Grades will be given for all homework, tests, and major exams, as follows:

| | |
|-----------------------------------|-----|
| Homework | 25% |
| Progress and Participation | 10% |
| Midterm | 30% |
| Final Project | 35% |

Tentative Course Outline

| <u>Week #</u> | <u>Topic</u> | <u>Assignment (times are minimums)</u> |
|---------------|--|--|
| Week 1 | Introduction, Orientation & Overview Computers, Sound and Music 1: MIDI | |
| Week 2 | Basic Operations in Reason Mixers, Part 1: Faders, Panning, EQ, Mute/Solo, Clipping | |
| Week 3 | Introduction to Software Synthesizers Subtractive Synthesis SubTractor | 0:30 piece using SubTractor |
| Week 4 | Drum Machines ReDrum Other Synthesis Techniques (Introduction) | 1:00 piece using SubTractor and ReDrum |
| Week 5 | Step Sequencers The Matrix Step Sequencer Computers, Sound and Music 2: Digital Audio | 1:00 piece using SubTractor, ReDrum, and Matrix |
| Week 6 | Mid-Term | |
| Week 7 | Loops Dr:REX sample loop player Techniques for Composition 1: Orchestration | 1:30 Group Project |
| Week 8 | The Sequencer, basic operations Automation Creating a DAW workstation | 1:00 piece using automation |
| Week 9 | The Sequencer, editing MIDI data Techniques for Composition 2: Pitch & Harmony | 1:00 piece using automation |
| Week 10 | Techniques for Composition 3: Rhythm & Form Mixdown and Exporting a Final Mix Audio File Formats | Final Project Proposal (written) |
| Week 11 | Techniques for Composition 4: Melody, Timbre, Texture Mastering and Creating a CD Distributing work over the Internet | |
| Week 12 | Presentation of Final Projects | 3:30 Final Project piece |