

# Music 147 - Music Production and Sound Design

## Syllabus

### Description

Not more than three decades ago, audio production used to be the realm of engineers who had comprehensive knowledge of electronics and signal processing. The recording studio with its complicated hardware equipment used to be the playground for these professionals. We have come a long way since then; Most of the work is now done inside software programs known as digital audio workstations or DAWs in short. We are also not dependent on expensive studios or the equipment they offer; The availability of affordable and portable consumer products means that we can have fully functional studios in our bedrooms. Whether you want to produce EDM, movie soundtrack, game sound effects, or presentable recordings of your performance, the technology you use is more or less the same. This course has been designed to make you aware of the tools you need, how to use them, and some of the aesthetic matters producers and designers have to think about. By the end of the course, you will be realizing your own compositions, arrangements, or design projects using modern production tools.

### Learning Objectives

Students will learn

- how to navigate a DAW environment,
- concepts and techniques pertaining recording, synthesis, sampling, processing, editing, arrangement, mixing and mastering,
- aural skills necessary for audio production,
- to apply learned techniques in realizing creative projects, and
- old and contemporary practices with reference to works of various artists.

### Topics

Although it does not always make sense to divide music production/sound design into distinct or chronological steps, we will use five categories to classify the topics in this course: source, assembly, effects, mixing, and mastering.

### Source

- Recording
- Synthesis
- Sampling

### Assembly

- Programming
- Editing
- Automation
- Arrangement

## Effects

- Sound sculpting
- Additive effects
- Space

## Mixing

- Levels
- Imaging and spacing

## Mastering

- Sweetening
- Transient shaping
- Loudness

We will spend Week 7 taking a deep look at the role space plays in music production and sound design. Reverb and spatialization are two aspects we will discuss.

## Software Requirements

For the most part, we will use [Logic Pro X](#) (available on all workstations in CAC 3006) to demonstrate concepts and to work on your projects. You may use other DAWs to realize your projects, but we will not be able to delve into them. **It will be important to have an advanced DAW (such as Logic Pro X, Ableton Live, or Reaper; Garage Band is NOT an advanced DAW) installed on your personal computer as you will be expected to complete projects with it.** [Ableton Live 11](#), [Max/MSP](#), and free third-party plugins such as [Vital](#) and [Kilohearts Essentials](#) will be used to demonstrate certain concepts. Students are free to use these programs in their projects but are not required to.

## Activities

- Lectures on techniques and aesthetics of music production and sound design,
- Discussing historical perspectives on the role of the producer,
- Sharing and providing feedback on student work,
- Weekly creative assignments, and
- A final creative project and a paper on it.

Office hours are only by appointment. Please get in touch with the instructor to schedule one.

## Course Requirements

An attendance record of 90% or better is required to pass the class. Please make every effort to arrive on time. Arrival more than 10 minutes late will be considered late. Arrival more than 30 minutes late will be considered an absence.

Students should attend each class session having done the assigned work and be prepared to participate actively in the discussion.

Students will complete weekly assignments that will be evaluated on fulfillment of the stated requirements, and demonstrated effort. These assignments should be submitted before Monday's meeting. On Wednesdays, the class will discuss and give feedback on as many submissions as time permits, and occasionally visit music production spaces.

Students will submit a final piece that may be a piece of music or other fixed-media work. A proposal for this project has to be submitted in Week 6. Students may complete this project in groups of not more than 3 people. For each project, a short paper (1000-1500 words) outlining how the project was conceived and realized has to be submitted.

## Texts

The class will be asked to read sections from *The Producer as Composer* by Virgil Moorefield. We will also look at sections from *Computer Music Programming* by Christopher Dobrian et al.

Additionally, feel free to check out [Routledge's series on sound design and composition](#) on your own if you wish. The series has great resources on designing sound for linear and interactive media that might be of interest to you. As a UCI student, you should be able to access online and PDF versions of all the books in the series.

## Evaluation

Students will be graded on their performance in weekly assignments, a proposal for a final project, a final project and an accompanying paper. They will be weighted as follows:

- Weekly assignments - 60%
- Final project - 40%
  - Proposal - 10%
  - Piece - 20%
  - Paper - 10%

The weekly assignments will be graded out of 5. A student gets 5 if their submission meets the criteria outlined in the assignment and shows creative intent, 4 if it meets the criteria but does not show creative intent, 3 if it does not meet the criteria but shows creative intent, and 2 if it does not meet the criteria or show creative intent.

The final piece will be graded out of 10. The instructor will not specify any criteria for this assignment. The basis of evaluation will be how well the students accomplish the goals they state in their proposals, and their creative effort. The paper and the proposal will both be graded out of 5. Clearly stated goals and a plan to accomplish them—including research—are expected in the proposal. A detailed and clear description of the creative and technical process of planning and realizing the project is expected in the paper.

## **Communication**

Students are encouraged to reach out to the instructor with any questions regarding the course through UCI email or Canvas. Discussion outside of class will take place primarily on the course's Discord server.

## **Disability**

If you have a disability that inhibits you from performing any of the stated requirements of this course, as approved and documented by the [UCI Disability Services Center](#), please ensure that the professor is thoroughly aware of the matter as early in the term as possible.

## **Academic Honesty**

Collaboration between students in this course is strongly encouraged. Students are urged to exchange ideas, opinions, and information constantly, and to help each other with research and projects. However, each student is responsible for the completion of their own assignments.

Plagiarism of any kind is in direct violation of the [UCI policy on Academic Integrity](#), and penalties for plagiarism can be severe. In this class, you will be expected to attribute due credit to the originator of any ideas or words that you incorporate into your own work. Any borrowed text must be cited in proper academic bibliographic fashion, giving credit to its original author.

## Quarter Schedule

Week	Module	Topic	Reading to be Discussed	Review	Assignment Due
1		Digital audio basics and sampling theory, Introduction to DAW environment	Moorefield 1-24, Dobrian et al. ( <a href="#">link 1</a> )		
2	Source	Synthesis - additive, subtractive, wavetable and modulation	Moorefield 24-41, Dobrian et al. ( <a href="#">link 1</a> ) ( <a href="#">link 2</a> )	Feedback on Assignment 1	Assignment 1
3		Recording and sampling	Moorefield 43-62	Feedback on Assignment 2	Assignment 2
4	Assembly	Programming, editing, automation and arrangement	Moorefield 62-78	Feedback on Assignment 3	Assignment 3
5	Effects	Sound sculpting - spectral and dynamics processing	Moorefield 79-103, Dobrian et al. ( <a href="#">link 1</a> )	Feedback on Assignment 4	Assignment 4
6		Additive effects - time-based and modulation effects	Moorefield 103-111	Feedback on Assignment 5 and discussion of proposals	Assignment 5 and proposal for final project
7		Space - reverb and spatialization		Feedback on Assignment 6	Assignment 6
8	Mixing	Fundamentals - balance, spectral separation and stereo imaging		Feedback on Assignment 7 and progress report on final project	Assignment 7
9		Creative - sidechain, gates and automation		Feedback on Assignment 8 and final project work-in-progress	Assignment 8
10	Mastering	Sweetening, transient shaping and loudness		Feedback on final project work-in-progress	
<b>Finals</b>					Final project