# AUDIO ENGINEERING

*Courses*



**Introduction to Audio Basics**

This course introduces students to the language of audio engineering and the textbook used for this program. We will spend time going over each chapter's main concepts and technical terms before diving into examples.

Topics include: principles of audio electronics and the decibel scale; electromagnetic induction; power, ground, and amplifiers; core concepts in digital audio; console and DAW signal flow, routing, and gain staging; microphone and loudspeaker principles and applications; signal processing,

including compression and equalization. Class meetings consist of lectures, demonstrations, and hands-on training with outboard gear.

We will talk about engineering techniques such as balance, panning, EQ, reverb, compression, delay and time-based effects; instrument identification; and stylistic comparisons of engineering and mix techniques. In-class listening analysis and concepts are reinforced through out-of-class critical listening assignments. This course is designed to teach you how to listen to music. You will be able to record right into your DAW!

*Each student will complete the class with a final project depending on interest in music production, post-production, sound for video, beatmaking, or podcast production.*

Guest Presenter: Leslie Gaston-Bird

Book: *Mix Like a Girl*

## Introduction to Recording

This course teaches students how to set up a band for recording; mic placement, acoustics, and how to choose microphones for each instrument. Studio experience and hands-on practice.

## ProTools 101 & 102

Topics covered include common DAW (digital audio workstation) procedures and protocol, data management, use of a virtual console, use of a control surface, signal flow, editing, and digital signal processing (plug-ins). ProTools is the industry standard software for recording and mixing.

**Introduction to Ableton Live and Beatmaking**

This course will introduce Ableton Live, the premier beatmaking DAW. Each student will be able to download an extended free trial of the software for this course, which will detail how to make your own drum grooves with an introduction to MIDI (Musical Instrument Digital Interface).

**Introduction to Analog Gear**

This course will go over the plugin emulations of analog gear and discuss how the analog world relates to mixing in-the-box. We will be able to demonstrate outboard gear via visits to studios around Seattle and abroad via Zoom. Throughout the program, we will be hands-on with gear borrowed from professors' personal collections as well as gear loaned to the program from established audio companies in order to learn how to work on a console alongside outboard gear.

**Mixing 101 & 102**

We will be mixing multitracks to build your portfolio throughout the year.

Guest Presenter: Sylvia Massy (Grammy-award winning engineer)

Guest Presenter: Caridad Espinosa, Mix Like a Girl Founder (Ecuador)

*Mix Like a Girl: The Handbook*, Caridad Espinosa. ($20, p). 2021.

**Introduction to Mastering**

Guest Presenters: Representative from iZotope on Ozone.

Margaret Luthar / Rachel Field

**Introduction to Post-Production**

Foley (the reproduction of everyday sound effects that are added to films); Guest Presenter: Celeste Selis (Italy)

Sound Mixing for Film and TV

Podcast Editing

**Building Your Portfolio**

Students will be expected to present a demo, arrange, session plan, rehearse, record, and produce a final mixing project depending on emphasis: music, podcasting, film scoring, post-production.

**Introductory Course for Fall, 2021:**

This course will provide an introductory overview of audio engineering, its core concepts and terminology, and practical application, as students apply the course material to their own work. The course will cover the basics of music production, recording, and audio post, as well as core technical and scientific concepts of audio that are applicable across all disciplines. Students will get hands-on experience using professional level audio software to complete their assignments, demonstrations of course concepts at local recording studios, and presentations from industry professionals providing practical advice on building a career. At the end of the course, students will leave with a broad understanding of basic audio concepts and applications, their own unique work, and an idea as to what to do next in order to further their audio career.

Instructors for Fall '21:

Lilian Blair is a producer, engineer, and audio educator in the Seattle area. She specializes in studio recording, mixing, and helping artists achieve their musical dreams. She is the Staff engineer at The Vera Project and is known as the rock and roll fairy godmother.
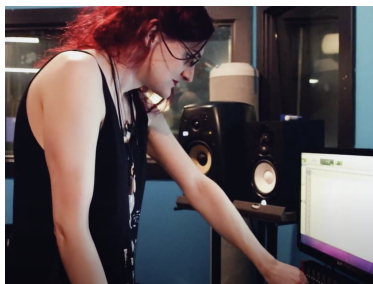
Dr. Angela Dane is a musician, writer, and professor of Women's Studies. She owns and operates the only Black female led drum studio for women in Seattle and is the drummer for two local bands, Atrocity Girl and Kitty Junk. She is the author of *Sabina Spielrein: the Woman and the Myth* (2017) and is a freelance audio engineer.



Course Book:

*Audio Engineering 101: A Beginner's Guide to Music Production*, Tim Dittmar ($33, p). 2011.

Resources:

Gear Fanatix

Reviews, demos, interviews with underrepresented voices in audio. We will have a class forum dedicated to questions, feedback, and sharing work.

Mix Like a Girl

Bootcamp and private lessons in audio engineering

Soundgirls

We Are Moving the Needle

Affiliates:

iZotope

Earwig Studio

Avid ProTools

Universal Audio

Eventide

SSL

Allen & Heath

Waves

Sweetwater

Earthworks

Chameleon Labs

Spectra 1964