



**COURSE OUTLINE : MUSIC 179**  
**D Credit – Degree Applicable**  
**COURSE ID 010442**  
**Cyclical Review: APRIL 2021**

**COURSE DISCIPLINE :** MUSIC  
**COURSE NUMBER :** 179  
**COURSE TITLE (FULL) :** Studio Recording and Mixing I  
**COURSE TITLE (SHORT) :** Studio Rec/Mix I

**CALIFORNIA STATE UNIVERSITY SYSTEM C-ID :**

**ACADEMIC SENATE DISCIPLINE:** Music

**CATALOG DESCRIPTION**

MUSIC 179 is an intermediate level audio recording and production class. The course covers tracking and recording audio, mixing sessions, using hardware and software based signal processing, and understanding signal flow at an intermediate level. Students will experience hands on use of analog and digital technology including a large format recording console, outboard dynamic processing, digital audio workstations, plugins, and a variety of microphones for audio engineering. The course offers students practical projects and practice in recording and mixing.

Total Lecture Units:1.50

Total Laboratory Units: 0.50

**Total Course Units: 2.00**

Total Lecture Hours:27.00

Total Laboratory Hours: 27.00

Total Laboratory Hours To Be Arranged: 0.00

**Total Contact Hours: 54.00**

**Total Out-of-Class Hours: 54.00**

Prerequisite: MUSIC 177, MUSIC 178, MUSIC 181, or MUSIC 184.



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**ENTRY STANDARDS**

	<b>Subject</b>	<b>Number</b>	<b>Title</b>	<b>Description</b>	<b>Include</b>
1	MUSIC	178	Introduction To Recording	Explain sound, hearing, and acoustics concepts;	Yes
2	MUSIC	178	Introduction To Recording	describe the principles of signal processing;	Yes
3	MUSIC	178	Introduction To Recording	discuss the differences in studio types and designs;	Yes
4	MUSIC	178	Introduction To Recording	explain microphone designs, characteristics, and applications;	Yes
5	MUSIC	178	Introduction To Recording	discuss speakers and monitoring concepts;	Yes
6	MUSIC	178	Introduction To Recording	explain proper signal flow in a recording system	Yes
7	MUSIC	178	Introduction To Recording	describe current audio recording procedures;	Yes
9	MUSIC	178	Introduction To Recording	explain the processes, hardware, and software used in digital recording;	Yes
10	MUSIC	178	Introduction To Recording	understand common editing procedures and possibilities for recorded audio;	Yes
11	MUSIC	178	Introduction To Recording	describe audio console operation and basic mixing concepts;	Yes
12	MUSIC	178	Introduction To Recording	explain current audio formats;	Yes
13	MUSIC	178	Introduction To Recording	summarize the different roles and processes involved in recording;	Yes
14	MUSIC	177	Introduction To Music Technology	demonstrate a working knowledge of the basic concepts and terminology of music technology;	Yes
15	MUSIC	177	Introduction To Music Technology	explain the fundamentals of sound including waveforms, frequency, amplitude, and harmonics;	Yes
16	MUSIC	177	Introduction To Music Technology	demonstrate a conceptual and practical understanding of audio recording, audio editing, and signal processing;	Yes
17	MUSIC	177	Introduction To Music Technology	describe the properties and components of audio recording systems;	Yes
18	MUSIC	181	Live Sound I	describe the principles of signal flow as related to live sound;	Yes
19	MUSIC	181	Live Sound I	describe microphone designs, characteristics, selection, and applications as related to live sound;	Yes
20	MUSIC	181	Live Sound I	describe signal processing and its applications to live sound;	Yes



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21	MUSIC	181	Live Sound I	understand monitoring and monitoring systems in live sound;	Yes
22	MUSIC	181	Live Sound I	understand the principles of room acoustics and how sound interacts with various room environments;	Yes
23	MUSIC	181	Live Sound I	understand the fundamental differences between digital and analog consoles;	Yes
24	MUSIC	181	Live Sound I	demonstrate proper equipment care and maintenance procedures and display an awareness of common industry practices;	Yes
25	MUSIC	184	Electronic Music I	explain and demonstrate effects processing in electronic music production.	Yes

**EXIT STANDARDS**

- 1 Set up console, hardware, and digital audio workstation (DAW) routing in a typical multitrack mix project workflow;
- 2 configure the console, hardware, and digital audio workstation (DAW) in tracking sessions for different genres of music and groups of musicians;
- 3 patch outboard equipment as an insert in an analog console or digital audio workstation;
- 4 demonstrate the ability to monitor or print signal processing and develop the insight to choose between the two;
- 5 connect microphones using various microphone preamplifiers and judge the aesthetic sound quality produced;
- 6 choose appropriate microphones for various acoustic and electric instruments, voices, and ensembles;
- 7 mix audio volume and panorama with an ear toward balance and symmetry;
- 8 demonstrate the ability to use equalization to shape the frequency of sound and dynamics to modify the amplitude in a fitting and aesthetically pleasing manner;
- 9 place microphones with commonly used microphone techniques on instruments, voices, and ensembles;
- 10 illustrate signal flow with analog, digital, or hybrid recording and mixing systems;
- 11 operate an analog console with digital and analog signal processing.

**STUDENT LEARNING OUTCOMES**

- 1 Operate a large format console with patchbay and outboard equipment in a professional studio environment for recording or mixing
- 2 Mix multitrack audio projects with consideration towards aesthetically pleasing balance and panorama, fitting use of equalization, and appropriate use of dynamics and time based processing
- 3 Capture audio recordings of various acoustic and electric instruments, voices, and ensembles using appropriate microphone choice, placement, and technique



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**COURSE CONTENT WITH INSTRUCTIONAL HOURS**

	<b>Description</b>	<b>Lecture</b>	<b>Lab</b>	<b>Total Hours</b>
1	Recording Audio <ul style="list-style-type: none"> <li>• Microphone type</li> <li>• Microphone Preamplifier</li> <li>• Stereo Mic Techniques</li> <li>• Capturing acoustic instruments</li> <li>• Capturing electric instruments</li> <li>• Capturing the drum set</li> <li>• Capturing the voice</li> <li>• Capturing ensembles</li> <li>• Critical listening</li> <li>• Hands on recording- practice and projects</li> </ul>	11	11	22
2	The Console, Outboard, Signal Flow and Processing <ul style="list-style-type: none"> <li>• The channel strip</li> <li>• Channel Equalizer (EQ)</li> <li>• The monitor section</li> <li>• Signal flow and routing on an in line console</li> <li>• The master section and processing</li> <li>• The patch bay</li> <li>• Outboard equipment insert signal flow and processing</li> <li>• Outboard equipment sends signal flow and processing</li> <li>• Cue Sends</li> <li>• Configurations for tracking</li> <li>• Configurations for mixing</li> <li>• Control surface functionalities</li> <li>• Hands on operation- practice and projects</li> </ul>	6	6	12



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3	<p>Mixing</p> <ul style="list-style-type: none"> <li>• Monitoring</li> <li>• Digital, Analog, and Hybrid Workflows</li> <li>• Submasters, Voltage Controlled Amplifiers (VCAs), and Groups</li> <li>• Inserts- eq and dynamics processing</li> <li>• Sends and time based processing</li> <li>• The master bus</li> <li>• Adjusting timing and pitch</li> <li>• Cleaning up the audio</li> <li>• More advanced operations- width, automation, parallel processing</li> <li>• Critical listening</li> <li>• Hands on mixing- practice and projects</li> </ul>	10	10	20
				<b>54</b>

**OUT OF CLASS ASSIGNMENTS**

- 1 reading
- 2 listening and analysis (e.g. listening to Sgt. Pepper’s Lonely Hearts Club Band and providing a description of recording techniques that are heard)
- 3 exercises (e.g. set up and capture a multi mic recording of the drum set)
- 4 projects (e.g. mix and bounce a multi-track session including the application of appropriate signal processing)

**METHODS OF EVALUATION**

- 1 class discussions;
- 2 midterm project and exercise evaluations;
- 3 final project evaluations;
- 4 midterm examinations;
- 5 final examinations.

**METHODS OF INSTRUCTION**

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial



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- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

**TEXTBOOKS**

<b>Title</b>	<b>Type</b>	<b>Publisher</b>	<b>Edition</b>	<b>Medium</b>	<b>Author</b>	<b>ISBN</b>	<b>Date</b>
Modern Recording Techniques	Required	Routledge	9	print	Huber, Miles	9781138203679	2018
The Recording Engineer's Handbook	Required	Bobby Owsinski Media Group	4	print	Owsinski, Bobby	9780998503356	2017
The Mixing Engineer's Handbook	Required	Bobby Owsinski Media Group	4	print	Owsinski, Bobby	9780998503349	2017
Mic It!: Microphones, Microphone Techniques, and Their Impact on the Final Mix	Required	Routledge	2	Print	Corbett, Ian	9780367470364	2021