MUSIC179 : Studio Recording and Mixing I

General Information

Author:	• Tobin Sparfeld
Course Code (CB01) :	MUSIC179
Course Title (CB02) :	Studio Recording and Mixing I
Department:	MUSIC
Proposal Start:	Fall 2024
TOP Code (CB03) :	(1005.00) Commercial Music
CIP Code:	(10.0203) Recording Arts Technology/Technician.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000608692
Curriculum Committee Approval Date:	11/08/0203
Board of Trustees Approval Date:	01/09/2024
Last Cyclical Review Date:	11/08/2023
Course Description and Course Note:	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.
Justification:	Mandatory Revision
Academic Career:	• Credit
Author:	• Tobin Sparfeld

Academic Senate Discipline

Primary Discipline:	• Music
Alternate Discipline:	
Alternate Discipline:	

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Course Special Class Status (CB13)

Course is not a special class.

Grading Basis

• Grade with Pass / No-Pass Option

Allow Students to Gain Credit by Exam/Challenge	Pre-Collegiate Level (CB21)	Course Support Course Status (CB26)
	Not applicable.	Course is not a support course

Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

C-ID	Area	Status	Approval Date	Comparable Course
CMUS	Commercial Music	Approved	09/03/2019	CMUS 130 X - Recording I

Units and Hours

Summary

Minimum Credit Units (CB07)	2
Maximum Credit Units (CB06)	2
Total Course In-Class (Contact) Hours	54
Total Course Out-of-Class Hours	54
Total Student Learning Hours	108

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

☐ Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	1.5	3
Laboratory Hours	1.5	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	27

Laboratory	27
Studio	0
Total	54

Course Out-of-Class Hours

Lecture	54
Laboratory	0
Studio	0
Total	54

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

MUSIC177 - Introduction To Music Technology (in-development)

Objectives
- Demonstrate a working knowledge of the basic concepts and terminology of music technology.
- Demonstrate a conceptual and practical understanding of audio recording, audio editing, and signal processing.
- Explain the fundamentals of sound including waveforms, frequency, amplitude, and harmonics.
- Describe the properties and components of audio recording systems.

OR

Prerequisite

MUSIC178 - Introduction To Recording

Objectives
- Summarize the different roles and processes involved in recording.
- Describe the principles of signal processing.
- Explain microphone designs, characteristics, and applications.
- Describe current audio recording procedures.
- Explain sound, hearing, and acoustics concepts.
- Discuss the differences in studio types and designs.
- Explain the processes, hardware, and software used in digital recording.
- Explain current audio formats.
- Describe audio console operation and basic mixing concepts.
- Discuss speakers and monitoring concepts.
- Explain proper signal flow in a recording system.
- Describe common editing procedures and possibilities for recorded audio.

OR

Prerequisite

MUSIC181 - Live Sound I (in-development)

Objectives
- Describe the principles of signal flow as related to live sound.
- Describe microphone designs, characteristics, selection, and applications as related to live sound.
- Describe signal processing and its applications to live sound.
- Explain monitoring and monitoring systems in live sound.
- Describe the principles of room acoustics and how sound interacts with various room environments.
- Recognize the fundamental differences between digital and analog consoles.
- Demonstrate proper equipment care and maintenance procedures and display an awareness of common industry practices.

OR

Prerequisite

MUSIC184 - Electronic Music I (in-development)

Objectives
- Explain and demonstrate effects processing in electronic music production.

Entry Standards

Entry Standards

No value

Course Limitations

Cross Listed or Equivalent Course

No value

Specifications

Methods of Instruction

Methods of Instruction	Lecture

Methods of Instruction	Laboratory

Methods of Instruction	Discussion

Methods of Instruction	Multimedia

Methods of Instruction	Tutorial

Methods of Instruction	Collaborative Learning

Methods of Instruction	Demonstrations

Methods of Instruction	Field Activites (Trips)

Methods of Instruction	Guest Speakers

Methods of Instruction	Presentations

Out of Class Assignments

- Reading
- Listening and analysis (e.g. listening to Sgt. Pepper's Lonely Hearts Club Band and providing a description of recording techniques that are heard)
- Exercises (e.g. set up and capture a multi mic recording of the drum set)
- Projects (e.g. mix and bounce a multi-track session including the application of appropriate signal processing)

Methods of Evaluation	Rationale
Other	Class discussions
Project/Portfolio	Midterm project and exercise evaluations
Project/Portfolio	Final project evaluations
Exam/Quiz/Test	Midterm examinations
Exam/Quiz/Test	Final examinations

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Huber, Miles	Modern Recording Techniques	Routledge	2018	9781138203679
Owsinski, Bobby	The Recording Engineer's Handbook	Bobby Owsinski Media Group	2017	9780998503356

Owsinski, Bobby	The Mixing Engineer's Handbook	Bobby Owsinski Media Group	2017	9780998503349
Corbett, Ian	Mic It!: Microphones, Microphone Techniques, and Their Impact on the Final Mix	Routledge	2021	9780367470364

Other Instructional Materials (i.e. OER, handouts)

No Value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Arrange console, hardware, and digital audio workstation (DAW) routing in a typical multitrack mix project workflow.

Format the console, hardware, and digital audio workstation (DAW) in tracking sessions for different genres of music and groups of musicians.

Create a patch for outboard equipment as an insert in an analog console or digital audio workstation.

Demonstrate the ability to monitor or print signal processing and develop the insight to choose between the two.

Connect microphones using various microphone preamplifiers and judge the aesthetic sound quality produced.

Choose appropriate microphones for various acoustic and electric instruments, voices, and ensembles.

Develop a mix of audio volume and panorama with an ear toward balance and symmetry.

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.

Prepare a placement of microphones with commonly used microphone techniques on instruments, voices, and ensembles.

Illustrate signal flow with analog, digital, or hybrid recording and mixing systems.

Operate an analog console with digital and analog signal processing.

SLOs

Operate a large format console with patchbay and outboard equipment in a professional studio environment for recording or mixing.
Expected Outcome Performance: 70.0

Arrange mixed multitrack audio projects with consideration towards aesthetically pleasing balance, panorama, equalization, dynamics and time based processing.
Expected Outcome Performance: 70.0

Create audio recordings of various acoustic and electric instruments, voices, and ensembles using appropriate microphone choice, placement, and technique.
Expected Outcome Performance: 70.0

Course Content

Lecture Content

Recording Audio (11 hours)
- Microphone type
- Microphone Preamplifier
- Stereo Mic Techniques
- Capturing acoustic instruments
- Capturing electric instruments
- Capturing the drum set
- Capturing the voice
- Capturing ensembles
- Critical listening
- Hands on recording- practice and projects

The Console, Outboard, Signal Flow and Processing (6 hours)
- The channel strip
- Channel Equalizer (EQ)
- The monitor section
- Signal flow and routing on an in line console
- The master section and processing
- The patch bay
- Outboard equipment insert signal flow and processing
- Outboard equipment sends signal flow and processing
- Cue Sends
- Configurations for tracking
- Configurations for mixing
- Control surface functionalities
- Hands on operation- practice and projects

Mixing (10 hours)
- Monitoring
- Digital, Analog, and Hybrid Workflows
- Submasters, Voltage Controlled Amplifiers (VCAs), and Groups
- Inserts- eq and dynamics processing
- Sends and time based processing
- The master bus
- Adjusting timing and pitch
- Cleaning up the audio
- More advanced operations- width, automation, parallel processing
- Critical listening
- Hands on mixing- practice and projects

Total hours: 27

Laboratory/Studio Content

Recording Audio (11 hours)
- Microphone type
- Microphone Preamplifier
- Stereo Mic Techniques
- Capturing acoustic instruments
- Capturing electric instruments
- Capturing the drum set
- Capturing the voice
- Capturing ensembles
- Critical listening
- Hands on recording- practice and projects

The Console, Outboard, Signal Flow and Processing (6 hours)
- The channel strip
- Channel Equalizer (EQ)
- The monitor section
- Signal flow and routing on an in line console
- The master section and processing
- The patch bay
- Outboard equipment insert signal flow and processing
- Outboard equipment sends signal flow and processing
- Cue Sends
- Configurations for tracking
- Configurations for mixing
- Control surface functionalities
- Hands on operation- practice and projects

Mixing (10 hours)
- Monitoring
- Digital, Analog, and Hybrid Workflows
- Submasters, Voltage Controlled Amplifiers (VCAs), and Groups
- Inserts- eq and dynamics processing
- Sends and time based processing
- The master bus
- Adjusting timing and pitch
- Cleaning up the audio
- More advanced operations- width, automation, parallel processing
- Critical listening
- Hands on mixing- practice and projects

Total hours: 27