MUS R140: INTRODUCTION TO MUSIC TECHNOLOGY

Originator
swolf

College
Oxnard College

Discipline (CB01A)
MUS - Music

Course Number (CB01B)
R140

Course Title (CB02)
Introduction to Music Technology

Banner/Short Title
Intro to Music Technology

Credit Type
Credit

Start Term
Fall 2021

Catalog Course Description
This course is an introduction to audio recording, mixing, and computer music creation. It covers fundamental concepts and techniques used in music production, such as MIDI and sampling, signal processing, mixing, recording console functions, and multi-track recording procedures. Emphasis will be placed on hands-on experience through various recording and mixing projects.

Taxonomy of Programs (TOP) Code (CB03)
1005.00 - *Commercial Music

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
A (Transferable to both UC and CSU)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
E - Non-Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
2 - Not Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
May be required

Faculty notes on field trips; include possible destinations or other pertinent information
Students may visit a live recording or studio.

Grading method
Letter Graded

Alternate grading methods
Student Option- Letter/Pass
Pass/No Pass Grading

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
17.5
Maximum Contact/In-Class Lecture Hours
17.5

Activity

Laboratory
Minimum Contact/In-Class Laboratory Hours
52.5
Maximum Contact/In-Class Laboratory Hours
52.5

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
70
Total Maximum Contact/In-Class Hours
70

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
35
Maximum Outside-of-Class Hours
35

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
105
Total Maximum Student Learning Hours
105

Minimum Units (CB07)
2
Maximum Units (CB06)
2

Student Learning Outcomes (CSLOs)	
	Upon satisfactory completion of the course, students will be able to:
1	Describe the principles of a digital recording system, including signal flow, MIDI, signal processing, digital audio mixing and editing, and monitoring
2	Students will design and operate an audio recording system appropriate to the technological requirements and budgetary constraints of a given project
3	Students will explain and define terminology associated with recording and mixing using DAW (Digital Audio Workstation) technology

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	Describe the principles of a recording system, including signal flow, signal processing (equalization, compression), digital audio mixing and editing, and monitoring
2	Describe the basic concepts of DAW (Digital Audio Workstation) Audio Technology
3	Demonstrate facility with a DAW by recording, mixing, or producing a song, podcast, TV ad audio, or similar project
4	Determine proper microphone selection and placement for a given audio source
5	Design and operate an audio recording system appropriate to the technological requirements and budgetary constraints of a given project

Course Content

Lecture/Course Content
1. Digital Audio Workstation (DAW) - The Oxnard College Lab is setup for Pro Tools
    a. Opening and Configuring a Pro Tools Session
        i. Overview of the Pro Tools GUI (Graphical User Interface)
        ii. Session Parameters
        iii. Latency
        iv. Hardware Buffer
        v. Saving a Session
        vi. Creating Audio Tracks
        vii. Creating MIDI Tracks
        viii. The Mix Window
        ix. The Edit Window
        x. Printing Tracks (internal recording)
        xi. Importing and Exporting Audio
        xii. Master Fader Tracks
    b. Recording
        i. Setting Basic Levels
        ii. Using Line and Microphone Signals
        iii. Recording Audio
        iv. Click Tracks and Tempo
        v. Punch In/Out
        vi. Pre/Post
        vii. Conductor
        viii. Input Monitoring
        ix. Playlist Use and Strategies
        x. Playlist View
    c. MIDI and Digital Instrument Tracks
        i. Setting up a MIDI interface
        ii. Creating a MIDI/Instrument Track
        iii. Recording MIDI
        iv. Editing MIDI
    d. Editing Techniques
        i. Fades
        ii. Tab to Transient
        iii. Navigation and Viewing Audio Files
    e. Loops
        i. Import Loops
        ii. Duplicate
        iii. Repeat
        iv. TCE Trim and Loop Trim
    f. Elastic Audio Tracks
        i. Tempo Conforming Clips
    g. Native AAX Plug-ins
        i. Spectral Processing
        ii. Dynamic Processing
        iii. Effect Processing
        iv. Track Inserts (Series Processing)
        v. Bus Effects and Sends (Parallel Processing)
        vi. Creating Headphone cues and submixes
    h. Mixing
        i. Signal Flow Overview
        ii. Track Balance
        iii. Panning
        iv. Automation
        v. Basic Dither Usage

        vi. Bouncing a Session
       vii. File Asset Management

2. Notation Software
    a. Creating a Score
    b. Setting Time Signatures and Key Signatures
    c. Choosing Instruments
    d. Inputting basic notes and rhythms
    e. An introduction to Multi-Voice layout
    f. The Transport
    g. Using ReWire to integrate with Pro Tools

3. Introduction to Hardware and additional DAWs
    a. Microphones
        i. Dynamic, Condenser, Ribbon, USB
       ii. Microphone Polar Patterns (Cardiod, Omni, Figure-8, etc.)
      iii. Large Diaphram vs. Small
      iv. Phantom Power
       v. Understanding Frequency Response
    b. Common Interfaces
    c. Monitors and Headphone Discussion
    d. Other DAWs - Knowing Your Options
        i. Logic
       ii. Ableton Live
      iii. Reason
      iv. Studio One
       v. Miscellaneous

Laboratory or Activity Content

1. Digital Audio Workstation (DAW)
    a. Opening and Configuring a Pro Tools Session
        i. Overview of the Pro Tools GUI (Graphical User Interface)
       ii. Session Parameters
      iii. Checking Latency
      iv. Adjust the Hardware Buffer for recording/mixing
       v. Creating Audio Tracks
      vi. Creating MIDI Tracks
      vii. The Mix Window
           1. Sends, Inserts, and Master Faders
           2. Automation settings - Latch, Touch, Read, Write
      viii. The Edit Window
           1. Spot, Shuffle, Slip, and Grid modes
           2. Grabber, Selector, and Trim Tools
           3. Playlists
           4. Setting Volume Automation
       ix. Printing Tracks (internal recording)
        x. Importing and Exporting Audio and MIDI
    b. Recording
        i. Setting Basic Levels and Monitoring Gain recording both line and microphone signals
       ii. Click Tracks and Tempo
      iii. Punch In/Out in a vocal narrative
      iv. Shortcuts to speed up workflow
    c. MIDI and Digital Instrument Tracks
        i. Using the Mini Grand
       ii. Introduction to Xpand Virtual Instrument Plugin
      iii. Sequencing Drums with AIR Boom
      iv. Intro to Synthesizers - DB-33 and AIR Vacuum
    d. Editing Techniques
        i. Trim, Combine takes, and Fades on a Spoken-word vocal track
       ii. Edit guitar and bass tracks in demo session
      iii. Check Phase in a demo session

  e. Loops
    i. Use loops to create a drum track
    ii. Use loops ot create a synthesizer track
  f. Elastic Audio Tracks
    i. Tempo Conforming Clips
  g. Native AAX Plug-ins
    i. Basic EQ of a Vocal Part (Spectral Processing)
    ii. Using Compression (Dynamic Processing)
    iii. Adding Special Effects to a Guitar Track (Effect Processing)
    iv. Track Inserts (Series Processing)
    v. Create a Reverb Aux track (Bus Effects and Sends)
    vi. Creating Headphone cues and submixes
  h. Mixing
    i. Track Balance
    ii. Panning
    iii. Automation
    iv. Basic Dither Usage
    v. Bouncing a Session
    vi. File Asset Management
2. Notation Software
  a. Creating a Score - For example: layout a string quartet score
  b. Looking at clefs
  c. Setting Time Signatures and Key Signatures
  d. Inputting basic notes and rhythms
  e. An introduction to Multiple voices
  f. The Transport - controlling tempo and step-time input
  g. Using ReWire to add a score to a Pro Tools Session
  h. Importing and Exporting MIDI audio files
3. Hardware and Other DAWs
  a. Using the PreSonus AudioBox
  b. Compare Condenser and Dynamic Microphones
  c. Compare Pro Tools and Logic Pro

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):
Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):
Group projects
Individual projects
Objective exams
Projects
Quizzes
Skills demonstrations
Skill tests

Instructional Methodology

Specify the methods of instruction that may be employed in this course
Audio-visual presentations
Computer-aided presentations
Collaborative group work
Class activities
Class discussions
Distance Education
Demonstrations
Field trips
Group discussions
Guest speakers

Instructor-guided interpretation and analysis
Instructor-guided use of technology
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:
- Students will record voiceovers with appropriate gain settings
- Students will mix and edit pre-recorded sessions in Pro Tools or a similar DAW and the instructor will critique and suggest enhancements
- The instructor will lead students in creating simple MIDI drum and instrument patterns
- Subject experts may come to explain aspects of the music business and offer suggestions for mixing, sound design, studio etiquette, etc.
- Students may be organized in group for various types of multi-track recording projects such as podcasts, rock band formats, or acoustic guitar and voice

Representative Course Assignments

Writing Assignments
- Written journal entries (What worked? What didn't? What plugins worked the best? Which settings?)
- Signal Flow Charts and other DAW-related information
- Research papers - historical information on the development of a particular recording tool, technique, or hardware

Critical Thinking Assignments
Students will be expected to troubleshoot previously recorded sessions in which there may be phase issues or other common problems that may relate to gain, plugins, balance, panning, automation, etc.

Reading Assignments
- Reading the textbook and other relevant articles
- LMS-based content pages

Skills Demonstrations
Students may be asked to run a virtual console during a recording session, to demonstrate the effective use of gain and time-based plugins, create sub-mix busses, etc.

Other assignments (if applicable)
- Lynda.com Tutorials and Projects
- Visiting message boards for the Audio Recording Community
- Audio editing assignments that can be done from home using open-source software

Outside Assignments

Representative Outside Assignments
- Mixing pre-recorded sessions
- Creating MIDI drum and instrument patterns
- Recording voiceovers and depending on the student's experience with music, recording acoustic and electric guitars, basses, mic'ing a piano, etc.

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Description
Senior, M. (2014). *Recording Secrets for the Small Studio*. Focal Press. 0415716705

Resource Type
Other Resource Type

Description
Pro-Tools Reference Guide will be provided on the district approved LMS and is available from the Avid website here: http://avid.force.com/pkb/articles/en_US/User_Guide/en379111.

Resource Type
Other Instructional Materials

Description
Other instructional videos, walk-throughs, and content pages will be provided via the district approved LMS.

Resource Type
Textbook

Classic Textbook
No

Description
Pro Tools Fundamentals 101 and 110 - Frank Cook, (2020) Avid Publications

Distance Education Addendum

Definitions

Distance Education Modalities
Hybrid (51%–99% online)
Hybrid (1%–50% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.
Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.
Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Students will be required to respond to one another with substantive comments with the intent of creating a dialog. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as "Message Students Who" and "Assignment Comments", will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.

Face to Face (by student request; cannot be required)	The instructor will hold weekly, scheduled office hours either in person or via-web conferencing, for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form "study groups" in person or online.
Other DE (e.g., recorded lectures)	Faculty will use a variety of ADA compliant tools and media integrated within the learning management system to help students reach SLO competency. Tools may include: • Recorded Lectures, Narrated Slides, Screencasts • Instructor created content • OC Online Library Resources • Canvas Peer Review Tool • Canvas Student Groups (Assignments, Discussions) • 3rd Party (Publisher) Tools (MyOpenMath) • Websites and Blogs • Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.)
Synchronous Dialog (e.g., online chat)	Instructor will provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Recordings of all live sessions will be made available within the LMS. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress.

Hybrid (51%–99% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards will encourage various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course content. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as "Message Students Who" and "Assignment Comments", will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and district-provided email accounts.
Face to Face (by student request; cannot be required)	The instructor may hold regularly scheduled office hours either in person or via-web conferencing, for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form "study groups" in person or online.
Other DE (e.g., recorded lectures)	A variety of ADA compliant tools and media integrated within the learning management system to help students reach competency. Tools may include: recorded lectures, narrated slides, screencasts, online library resources, 3rd party (publisher-created) tools, websites and blogs, multimedia and streaming platforms like YouTube, Films on Demand, 3CMedia, Khan Academy, etc.
Synchronous Dialog (e.g., online chat)	A set time each week may be provided when the instructor is available for synchronous chat to answer questions.

Video Conferencing	Video tools such as ConferZoom may be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Student-to-student group meetings will also be encouraged.

100% online Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards will encourage various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course content. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as "Message Students Who" and "Assignment Comments", will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and district-provided email accounts.
Face to Face (by student request; cannot be required)	The instructor may hold regularly scheduled office hours either in person or via-web conferencing, for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form "study groups" in person or online.
Other DE (e.g., recorded lectures)	A variety of ADA compliant tools and media integrated within the learning management system to help students reach competency. Tools may include: recorded lectures, narrated slides, screencasts, online library resources, 3rd party (publisher-created) tools, websites and blogs, multimedia and streaming platforms like YouTube, Films on Demand, 3CMedia, Khan Academy, etc.
Synchronous Dialog (e.g., online chat)	A set time each week may be provided when the instructor is available for synchronous chat to answer questions.
Video Conferencing	Video tools such as ConferZoom may be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Student-to-student group meetings will also be encouraged.

Examinations

Hybrid (1%–50% online) Modality
Online
On campus

Hybrid (51%–99% online) Modality
Online
On campus

Primary Minimum Qualification
MUSIC

Additional local certifications required
Pro Tools Certified Instructor

Review and Approval Dates

Department Chair
09/08/2020

Dean
09/08/2020

Technical Review
09/23/2020

Curriculum Committee
09/23/2020

Curriculum Committee
11/25/2020

CCCCO
MM/DD/YYYY

Control Number
CCC000587948

DOE/accreditation approval date
MM/DD/YYYY