# MUSIC177 : Introduction To Music Technology

## General Information

| | |
|---|---|
| **Author:** | • Tobin Sparfeld |
| **Course Code (CB01) :** | MUSIC177 |
| **Course Title (CB02) :** | Introduction To Music Technology |
| **Department:** | MUSIC |
| **Proposal Start:** | Fall 2024 |
| **TOP Code (CB03) :** | (1005.00) Commercial Music |
| **CIP Code:** | (10.0203) Recording Arts Technology/Technician. |
| **SAM Code (CB09) :** | Possibly Occupational |
| **Distance Education Approved:** | No |
| **Will this course be taught asynchronously?:** | No |
| **Course Control Number (CB00) :** | CCC000590198 |
| **Curriculum Committee Approval Date:** | 12/13/2023 |
| **Board of Trustees Approval Date:** | 01/09/2024 |
| **Last Cyclical Review Date:** | 12/13/2023 |
| **Course Description and Course Note:** | MUSIC 177 offers an introduction to the current applications of computers and software used in music creation, music sequencing, and music notation. Students will examine the terminology, equipment, techniques, and concepts related to music technology. The course will survey the principles and practices of sound, the musical instrument digital interface (MIDI), synthesis, notation, and using both hardware and software platforms to record audio. |
| **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 both UC and CSU

**Transferability Status**

Approved

| C-ID | Area | Status | Approval Date | Comparable Course |
|---|---|---|---|---|
| CMUS | Commercial Music | Approved | 08/30/2021 | CMUS 100 X - Introduction to Music Technology |

## Units and Hours

### Summary

| | |
|---|---|
| **Minimum Credit Units (CB07)** | 3 |
| **Maximum Credit Units (CB06)** | 3 |
| **Total Course In-Class (Contact) Hours** | 54 |
| **Total Course Out-of-Class Hours** | 108 |
| **Total Student Learning Hours** | 162 |

### 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.

**Funding Agency Category (CB23)**

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

### Weekly Student Hours

| | In Class | Out of Class |
|---|---|---|
| Lecture Hours | 3 | 6 |
| Laboratory Hours | 0 | 0 |
| Studio Hours | 0 | 0 |

### Course Student Hours

| | |
|---|---|
| **Course Duration (Weeks)** | 18 |
| **Hours per unit divisor** | 0 |
| **Course In-Class (Contact) Hours** | |
| Lecture | 54 |

| | |
|---|---|
| Laboratory | 0 |
| Studio | 0 |
| **Total** | 54 |

| **Course Out-of-Class Hours** | |
|---|---|
| Lecture | 108 |
| Laboratory | 0 |
| Studio | 0 |
| **Total** | 108 |

## 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

Prerequisite: None.

## 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 | Discussion |
| --- | --- |

| Methods of Instruction | Multimedia |
| --- | --- |

| 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 a produced track and identifying editing, effects, or sequencing elements heard)
- Exercises (e.g. create a sampler patch from a recording of your voice)
- Projects (e.g. create a one minute project in a DAW that uses multiple tracks and demonstrates both original MIDI regions and audio editing or effects techniques)

| Methods of Evaluation | Rationale |
| --- | --- |
| Project/Portfolio | Midterm project evaluations |
| Project/Portfolio | Final cumulative project evaluation |
| Exam/Quiz/Test | Midterm examinations |
| Exam/Quiz/Test | Final examination |
| Other | Class discussions |

## Textbook Rationale

The Hosken is a classic textbook for this class. There is an ebook version with a publication date of 2018 (ISBN 9781315165561), but the 2015 is the date of the most recent print version.

**Textbooks**

| Author | Title | Publisher | Date | ISBN |
|---|---|---|---|---|
| Hosken, Dan | An Introduction to Music Technology | New York: Routledge | 2015 | 978-0-415-82573-3 |
| Nahmani, David | LogicPro X - Professional Music Production | Berkeley: Peachpit Press | 2018 | 9780135244760 |

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

No Value

**Materials Fee**

No value

## Learning Outcomes and Objectives

**Course 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.

Demonstrate a conceptual and practical understanding of MIDI hardware, software, and sequencing.

Explain the fundamentals of synthesis techniques such as subtractive, digital, additive, wavetable, and sampling.

Describe the elements and techniques of computer music notation software.

Describe the properties and components of audio recording systems.

**SLOs**

| | |
|---|---|
| Create an original project in a DAW that uses both audio and MIDI created by the student. | Expected Outcome Performance: 70.0 |
| Develop a unique or new sound on a synthesizer by using concepts or techniques leaned in the course. | Expected Outcome Performance: 70.0 |
| Assemble printed sheet music by entering the music into notation software. | Expected Outcome Performance: 70.0 |

## Additional SLO Information

**Does this proposal include revisions that might improve student attainment of course learning outcomes?**

No

**Is this proposal submitted in response to learning outcomes assessment data?**

No

**If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.**

No Value

**SLO Evidence**

No Value

## Course Content

### Lecture Content

**Fundamentals of Sound (7 hours)**
- Generation, propagation, and reception
- Properties of sound Overtone series and sound spectra

**Setting Up a Project Studio (6 hours)**
- Hardware
- Software
- Connections

**The Musical Instrument Digital Interface (MIDI) (6 hours)**
- MIDI data and networks
- MIDI math, structures, and messages

**Sequencing Concepts (12 hours)**
- Sequencer operation
- Real-time and step-time entry and editing techniques
- Sequencing bass and drum grooves
- Using and editing controller data
- Software instruments
- Plug-ins and effects processing

**Audio and Recording Concepts (6 hours)**
- Sound and auditory perception
- Analog versus digital
- Sampling (digital audio recording)
- The signal chain and the mixing process
- The digital audio workstation (DAW)
- Signal (effects) processing
- Digital audio data and formats
- Digital audio editing

**Music Synthesis (9 hours)**
- Synthesizer elements and signal flow
- Synthesis methods (additive, subtractive, wavetable, digital)
- Sampling and samplers
- Sound creation and sound design

**Loop-Based Music Production (2 hours)**
- Using loop software to create music
- Loop creation

**Music Notation Software (6 hours)**

- Music notation concepts
- Entry methods
- Workflow from score set-up to final output

**Total hours: 54**