Course Outline for MUS 35

INTRO TO MUSIC TECHNOLOGY

Effective: Spring 2017

I. CATALOG DESCRIPTION:
MUS 35 — INTRO TO MUSIC TECHNOLOGY — 3.00 units

This course covers the following basic aspects of music technology: computer skills, software-based sequencing, synthesis, MIDI, sampling, notation, principles of sound, microphones, introduction to digital audio, signal processing, mixers and mixing, recording principles, cables and interconnects, and audio in live performance.

  3.00 Units Lecture

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:
  A. Explain and diagram the principles of sound and acoustics
  B. Discuss signal flow in a recording console
  C. Describe microphone functions and uses
  D. Explain the functions and applications of signal processors
  E. Perform simple mixdowns
  F. Create sheet music using a notation program

V. CONTENT:
  A. Computer Skills
      1. Operating systems
      2. Hardware components
      3. Software basics
  B. Utilities
      1. Maintaining a computer system
      2. Saving and backup strategies
      3. Data compression formats
      4. Burning CD's and DVD's
  C. Software-based sequencing
      1. MIDI
      2. Synthesis
      3. Sampling
  D. Notation
  E. Principles of Sound and Hearing
      1. Waveform propagation
      2. Waveform characteristics
      3. Decibel
      4. The Ear
      5. Auditory Perception
      6. Perception of space
  F. Microphones
      1. Microphone design
      2. Directional response
      3. Frequency response
      4. Transient response
  G. Introduction to digital audio
      1. Sampling
      2. The Nyquist Theorem
      3. Oversampling

        4. Quantization
        5. Signal-to-error ratio
        6. Dither
  H. Signal Processing
        1. Plug-ins
        2. Equalization
        3. Dynamic effects
        4. Time-based effects
  I. Mixers and mixing
        1. Channel input
        2. Auxiliary send section
        3. Output bus
        4. Automation
  J. Recording Principles
        1. Preparation
        2. Setting up
        3. Recording
        4. Overdubbing
        5. Mixdown
  K. Cables and Interconnects
  L. Audio in Live Performance

VI. METHODS OF INSTRUCTION:
  A. **Projects** -
  B. **Individualized Instruction** -
  C. **Guest Lecturers** -
  D. **Research** -
  E. **Discussion** -
  F. **Student Presentations** -
  G. **Lab** -
  H. **Audio-visual Activity** -
  I. **Classroom Activity** -
  J. **Demonstration** -
  K. **Lecture** -

VII. TYPICAL ASSIGNMENTS:
  A. Assignments that Demonstrate Critical Thinking
    1. Student will analyze mixdowns of popular music create by professionals.
    2. Students will evaluate recordings using the following criterion: signal flow, digital signal processing, and blending of sound.
  B. Writing Assignments and/or Proficiency Demonstration
    1. Students will demonstrate their proficiency in using a digital audio workstation through producing a simple mixdown.

VIII. EVALUATION:
  A. **Methods**

      1. Exams/Tests
      2. Quizzes
      3. Projects
      4. Group Projects
      5. Class Participation
      6. Class Work
      7. Home Work
      8. Lab Activities

  B. **Frequency**

    3 exams

    5 quizzes

    2 major recording projects (1 group, 1 individual)

    Daily attendance/participation

    Daily class work

    Weekly homework

    Weekly lab hours

IX. TYPICAL TEXTS:
  1. Hosken, Dan. *An Introduction to Music Technology* . 2nd e ed., Routledge, 2014.
  2. Manzo, V.J.. *Foundations of Music Technology.* 1st ed., Oxford University Press, 2015.
  3. Ballora, Mark. *Essentials of Music Technology.* 1st ed., Oxford University Press, 2015.

X. OTHER MATERIALS REQUIRED OF STUDENTS: