Bergen Community College
Division of Business, Arts & Social Sciences
Department of Performing Arts

Course Syllabus

Music Production Technology MUS 151

Semester and year:
Course Number:
Meeting Times and Locations:

Instructor:
Office Location:
Phone: 201-447-7143
Departmental Secretary: Ms. Barbara Bliss
Office Hours:
Email Address:

Course Description:

MUS 151 introduces students to the concepts of recording, sequencing and mixing music using computer-based Digital Audio Workstations (DAWs). Topics covered include digital audio and MIDI theory, DAW signal flow and system requirements, MIDI sequencing, stereo mixing techniques, and use of software-based virtual instruments and effects processors such as equalizers, compressors and reverbs. Students receive hands-on practice in digital music production in a state of the art production lab.

2 lecture hours, 2 lab hours, 3 credits

Prerequisite: none

Student Learning Objectives:

As a result of meeting the requirements of this course, students will be able to…

1) Apply the principles of audio and MIDI theory and tools including microphones, mixers, sequencers and controllers to record, edit, and mix broadcast quality music on Digital Audio Workstations

2) Employ an understanding of rhythmic theory and tools such as click tracks, tempo tracks, and quantizing to ensure desired conformity to tempo in recorded performances

3) Apply an understanding of effects processors such as equalizers, compressors, and reverb to achieve spectral and dynamic balance and depth in mixes

4) Put together a high functioning Digital Audio Workstation integrating a computer, audio interface, and non-linear audio recording/editing/mixing software.

5) Develop listening skills to draw from the rich tradition of music production techniques to apply creative applications of sonic tools to modern productions

6) Apply the concepts of recording and mixing to live concert production

Assessment:

In support of the above-mentioned goals, the course will include individual project work, reading assignments, and a mid-term and final exam. Students are strongly encouraged to take an active part in class discussions.

Objectives may be assessed as follows:

1. Students will create and submit multiple projects demonstrating their ability to effectively record, edit, and mix audio as well as sequenced MIDI. Projects shall included recorded and imported audio as well as MIDI sequences created to tempo grids; use of EQ, compression and reverb processors; use of auxiliary inputs; application of all audio and MIDI theory taught during the course

2. Students will demonstrate their knowledge of audio theory on mid-term and final exams as well as by the outcome of their projects.

3. Students will be required to critique the work of other students to help develop critical listening skills and the ability to communicate music production concepts.

4. Students will evaluate a live concert to demonstrate their understanding of how music production concepts translate to live sound reinforcement

Course Content

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Specific course content should include:
- a brief history of music production
- audio concepts including frequency, amplitude, phase, compression, rarefaction, signal:noise ratio, transduction, analog/digital conversion, sample rate, bit depth as applied to production
- MIDI concepts including MIDI protocol, MIDI messages and basic synthesis
- signal flow in the Digital Audio Workstation and within production software
- hardware requirements for DAW-based music production (computers, audio/MIDI equipment, storage, etc.)
- microphone theory (transducer types, polar patterns, phantom power, pre-amps)
- file management
- audio and MIDI editing concepts
- rendered and real-time signal processors with particular emphasis on EQ, compressors and reverbs
- critical listening skills

Technological Literacy

Technological literacy is one expectation of this course. Students will be encouraged to use such technology as microphones, personal computers, musical keyboards, non-linear recording software and plugins, and digital audio interfaces. A general understanding of computers and file storage is expected.

Course Texts and/or Other Study Materials

Required: Ditmarr, Tim. *Audio Engineering 101: A Beginner's Guide to Music Production* 1st edition. Taylor & Francis Publishing. 2011. ISBN# 0240819152

Grading Policy

The final grade in this course will be determined by a student's overall mastery of the subject matter as evidenced on exams, quizzes, oral presentations, homework assignments, consistent attendance and quality class participation. There will be one mid-term exam, one final exam, 3 studio/lab projects, and weekly assignments.

Attendance, preparation and active participation	10%
Project I: recording/editing project	15%
Project II: multitrack mix	20%
Project III: student recording and mix	25%
Mid-term exam:	15%
Final exam:	15%

Criteria for Evaluation: *Attendance and participation*
a. consistent attendance**
b. quality classroom responses
c. overall contribution to in-class discussion and demonstrations

90-100 = A   86-89 = B+   80-85 = B   76-79 = C+   70 - 75 = C   65-69 = D
E =Unofficial Withdrawal W =Official Withdrawal   INC=Incomplete 0–64 = F

Any work turned in late from the original due date shall be deducted by one letter grade. Two letter grades shall be deducted after the second week from the due date, and three letter grades after the third week from the original due date. There are no make-up examinations unless approved in advance by the instructor.

Attendance Policy

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Students will be evaluated on attendance and participation in class using the following criteria: consistent attendance; evidence of studying text and assignments; completed daily assignments; quality classroom responses.

Bergen Community College Academic Policies

Bergen Community College is committed to academic integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. Please review the college catalogue or student handbook for further information on this topic.

Bergen Community College has adopted an internal grievance procedure to provide for prompt and equitable resolution of complaints alleging any action prohibited by federal regulation implementing Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990. (ADA). Please review the college catalogue for further information on this topic.

Bergen Community College is committed to providing its students and employees with an academic and work environment free from sexual harassment or discrimination. Please review the policy prohibiting sexual harassment in the college catalog.

Please review the statement on acceptable use of BCC technology in the college catalog.

Faculty hold 3 office hours per week, and as requested by students, by appointment. Students are encouraged to seek out their faculty member for academic needs.

Student and Faculty Support Services

All students are encouraged to visit and use the BCC Library.   There are particularly excellent electronic references in the area of music available to our students.

Students are encouraged to use the student support services of the college. These services include: the Writing Center, the Tutorial Center, and the Office of Specialized Services.
The Distance Learning Office – for any problems you may have accessing your online courses   Room C-334   201-612-5581
psimms@bergen.edu
Smarthinking Tutorial Service   On Line at:
          www.bergen.edu/library/learning/tutor/smart/index.asp
The Tutoring Center   Room L-125   201-447-7908
The Writing Center   Room L-125   201-447-7908
The Online Writing Lab (OWL)   On Line at: www.bergen.edu/owl
The Office of Specialized Services (for Students with Disabilities)   Room S-131   201-612-5270
The Sidney Silverman Library – Reference Desk   Room L-226   201-447-7436

Course Outline:

Note to Students: This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class

Part I: Introduction to audio concepts

Week	Topic	Objectives met
1	- Course overview - The history of music production (monophonic recordings to lacquer, multichannel consoles, multitrack analog and digital tape, synthesizers, MIDI technology, portastudios) - Intro to music production software	5, 6
2	- Recording and editing audio - Signal flow - Signal:noise ratio - Direct inject recording - Recording with microphones/basic mic theory - File management: working with audio files and regions and session maintenance	1, 2, 4, 6
3	- Audio Waveform components (frequency, amplitude, phase, compression, rarefaction) - Digital audio theory: transduction, A/D conversion, sample rate, bit depth - Editing exercises	1, 6
4	- In-class presentation and critiques of Project 1 - Introduction to Project 2 - Overview of audio processing - Audiosuite and RTAS effects	1, 2, 3, 5
5	- MIDI theory - Intro to MIDI sequencing (instrument tracks, virtual instruments, grid-based recording, note and score editing, quantizing)	1, 2
6	- Introduction to the drumset - Creating MIDI drum/percussion tracks	2, 6
7	Review of concepts from weeks 1-6	1-6
8	Mid-term exam Considerations for mixing: Balance, Spectral Content, Dynamic Content, Aural Field, Dimension (FX), Interest (Arrangement, Persuasion).	**1, 3, 5, 6**
9	Presentation and critiquing of project 2	1, 2, 3, 5, 6
10	Spectral management: Using Equalizers	1, 3, 5, 6

11	Dynamic range and compressors	1, 3, 5, 6
12	Creating depth in mixes with artificial reverb Busses and aux sends	1, 3, 5, 6

13	System requirements for Digital Audio Workstations (DAWs) Overview of interfaces for DAWs Introduction to the recording studio	**1, 4**
14	Studio recording session Review for final exam	**1, 3, 4, 5**
15	Presentation of final projects FINAL EXAM	1, 2, 3, 5