

Bergen Community College  
Division of Arts and Humanities  
Department of Performing Arts

Course Syllabus

**Intro To MIDI Sequencing and Synthesis MUS 150**

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 150 introduces students to the concepts of composing music and processing sounds using software-based sequencers and synthesizers. Topics covered include MIDI theory; composing with MIDI controllers, sequencing software and virtual instruments; synthesizing and manipulating sounds with synthesizers and audio processing tools; converting MIDI to audio; and mixing multitrack productions. Students will also be exposed to various forms of MIDI-based music as a basis for composing techniques.

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) Write, sequence, and mix virtual instrument- and synthesizer-based music compositions.
- 2) Use rhythmic tools such as click tracks, tempo tracks and quantizing to achieve desired rhythmic precision in compositions.
- 3) Edit and sonically manipulate MIDI and audio as bases for music creation.
- 4) Use subtractive synthesis and software-based synthesizers to create electronically synthesized sounds for use in electronic composition.
- 5) Use audio processors such as pitch shift, reverse, equalizers, reverb, delay and modulation-based effects to augment sequenced tracks.

- 6) Finalize MIDI productions for playback in audio devices.
- 7) Creatively implement concepts of MIDI theory and synthesis into MIDI based productions

### **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 will be assessed as follows:

1. Students will create and submit a project demonstrating their ability to effectively compose and edit rhythmic-based music using MIDI technology such as virtual drums, tempo grids and quantizing.
2. Students will create and submit a project demonstrating their ability to compose using a variety of virtual instruments presets from software synthesizers to create sample-based music productions.
3. Students will create and submit a project demonstrating their ability to use subtractive synthesis to create electronically-based music productions.
4. Students will create and submit a project demonstrating their ability to produce multitrack mixes using effects processors to augment preset and synthesized sounds.
5. 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.
6. Students will demonstrate their understanding of MIDI theory as applied to the above skills on exams.

### **Course Content**

**Intro to MIDI Sequencing and Synthesis** introduces students to the concepts of composing music and processing sounds using software-based sequencers and synthesizers. Topics covered include MIDI theory; composing with MIDI controllers, sequencing software and virtual instruments; synthesizing and manipulating sounds with synthesizers and audio processing tools; converting MIDI to audio; and mixing multitrack productions. Students will also be exposed to various forms of MIDI-based music as a basis for composing techniques.

### **Technological Literacy**

Technological literacy is one expectation of this course. Students will be encouraged to use such technology as personal computers, musical keyboards, non-linear music production software and plugins, as well as digital audio interfaces.

## Course Texts and/or Other Study Materials

Text and other study materials for this course to be deemed by the individual instructor.

## 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, 2 final projects, and weekly assignments.

Attendance, preparation and active participation	10%
Project I: rhythm-based sequencing project	10%
Project II: traditional instruments based project	15%
Project III: electronic synthesis based project	15%
Project IV: final project incorporation effects	20%
Mid-term exam:	15%
Final exam:	15%

### **Criteria for Evaluation:** *Attendance and participation*

- consistent attendance\*\*
- quality classroom responses
- overall demonstration of comprehension of the course material

**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 <a href="mailto:psimms@bergen.edu">psimms@bergen.edu</a>
Smarthinking Tutorial Service	On Line at:	<a href="http://www.bergen.edu/library/learning/tutor/smart/index.asp">www.bergen.edu/library/learning/tutor/smart/index.asp</a>
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:	<a href="http://www.bergen.edu/owl">www.bergen.edu/owl</a>
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

Departmental Policy Syllabus  
Revised, 11/15/14

## 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 MIDI Sequencing

Week	Topics covered	Objective(s) met
1	<ul style="list-style-type: none"> <li>The history of MIDI</li> <li>MIDI protocol</li> <li>Introduction to the workstations</li> <li>Introduction to virtual instruments</li> </ul>	1, 7
2	<ul style="list-style-type: none"> <li>Creating drum patterns: using the click track, tempo grids, and quantizing</li> </ul>	1, 2
3	<ul style="list-style-type: none"> <li>Composing and recording with software synthesizers</li> <li>MIDI messages and control codes</li> </ul>	1, 7

### Part II: Synthesis

Week	Topics covered	Objective(s) met
4	<ul style="list-style-type: none"> <li>Listen to/critique project #1 in class</li> <li>Introduction to subtractive synthesis in modular synthesizers: VCOs, VCFs, VCAs</li> </ul>	4
5	<ul style="list-style-type: none"> <li>Sound envelope theory as applied to synthesis</li> </ul>	4
6	<ul style="list-style-type: none"> <li>Listen to/critique project #2 in class</li> </ul>	
7	<ul style="list-style-type: none"> <li>Review for mid-term: MIDI history, theory, and application</li> </ul>	1, 2, 4, 7
8	<b>Mid-term exam</b>	1, 2, 4, 7

### Part III: Integrating audio and effects

Week	Topics covered	Objective(s) met
9	<ul style="list-style-type: none"> <li>Listen to/critique project 3 in class</li> <li>Introduction to working with audio</li> <li>Musique concrete demo</li> </ul>	3, 5
10	<ul style="list-style-type: none"> <li>Signal processing intro: overview of rendered effects and channel inserts</li> </ul>	5
11	<ul style="list-style-type: none"> <li>Signal processing: using reverb and auxiliary tracks</li> </ul>	5
12	<ul style="list-style-type: none"> <li>Mix automation (track and MIDI controls)</li> </ul>	1
13	<ul style="list-style-type: none"> <li>Review of concepts from weeks 9-12</li> </ul>	1, 3, 5
14	<ul style="list-style-type: none"> <li>Final projects presented and critiqued</li> </ul>	1-5, 7
15	<ul style="list-style-type: none"> <li><b>Burning final projects to CD</b></li> <li><b>FINAL EXAM</b></li> </ul>	1, 3, 5, 6