



CURRICULUM COMMITTEE PROPOSAL ARTICULATION FORM

Please use the "Tab" key to maneuver between fields. Thank you

Title of Proposal: Pilot Course/MUS 2340 Introduction to MIDI Systems and Sound Design	
Originator(s)/Presenter(s): Fernando Ulibarri	Department: Visual and Performing Arts
Proposal Consultant*: Department Faculty	Date: 09/08/09

Request Waive of First Read:	Yes	X	No	
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*Yes = Proposal presented AND committee vote at same monthly meeting.
If Yes, please provide rationale in answer to question #5 of this form.
No = Proposal presented first month; committee vote the second month.*

1. This proposal pertains to *(check all that apply):* Please provide Prefix/#, BC Major Code, and State CIP Code as indicated. BC major codes are available on the college application or program of study sheet; CIP codes are available on the State Program Length document.

(Program of Study Sheets and State CIP Code documents are available by web-links located on the Curriculum Services homepage)

Course Transactions

<i>New Course(s) (If course will be an A.A. elective, precede prefix with \$)</i>	Prefix/#(s) ^^
<i>Course(s) Revision</i>	Prefix/#(s)
<i>Course(s) Number Change</i>	Prefix/#(s)
<i>Course(s) Dscript. Change</i>	Prefix/#(s)
<i>Course(s) Removal</i> @	Prefix/#(s)

@ (Removal = removing from a program of study; not deleting from BC course inventory (CID) or from State Course Numbering System (SCNS))

<i>Course(s) Deletion</i> @ **	Prefix/#(s)
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@ (Deletion = deletion from BC course inventory (CID), deletion from program of study, AND from State Course Numbering System (SCNS))

**** List ALL programs of study (by BC major code) that have been notified of this course deletion:**

Program Transactions

<i>New Program(s)</i>	Major Code(s) ^^	CIP(s)
<i>Program Revision(s)</i>	Major Code(s)	CIP(s)
<i>Program Deletion(s)</i>	Major Code(s)	CIP(s)

(Completed/Signed 'New Technical Program/Program Expansion Procedure' must precede/accompany new program documents to Curriculum Services)

Other / FYI

X	<i>Other/FYI</i>	Pilot Course/ MUS 2340 Introduction to MIDI Systems and Sound Design
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* VPAA, Academic Dean(s), Department Head(s), Curriculum Services Office, Department Faculty, Self

^^ If known. Common Course Numbers may be researched on the SCNS link.

2. Summary of Proposal: *(750 characters, maximum)*

This proposal is to present a Pilot Class in Term II (20102) that will provide students with a comprehensive study of the Musical Instrument Digital Interface (MIDI) and its many musical applications with an emphasis on sequencing and sound design. Concepts of music synthesis and sound design are presented through the use of a computer, keyboard, and appropriate software.

3. Rationale for Proposal: *(750 characters, maximum)*

The rapidly changing nature of the music business, and the need for Broward College graduates to have a competitive edge in the field, requires them to be familiar with several aspects of music technology. The MIDI communication standard, as well as basic concepts of sound design and music synthesis, are an integral part of the music industry. The recent investment made by the Visual and Performing Arts department in music technology has made classes such as this one possible.

4. Fee(s) *(please itemize all special course fees that will be charged to students):*

Fee Type <i>(letter/code ^^)</i>	Amount	Description

5. Should changes go into effect before the next academic year?

Yes No

(If yes, please provide rationale)

The music unit wants to offer this pilot class in Term II (20102) so that our second-year students have the opportunity to gain the needed music technology skills before they graduate later this academic year.

6. Curriculum Committee Action	Date		Approved		Disapproved		Tabled	
	Notes: 							

Signatures:



BROWARD COLLEGE COURSE OUTLINE

LAST REVIEW: **NEXT REVIEW:** **STATUS:** A

COURSE TITLE: Introduction to MIDI Systems and Sound Design

COMMON COURSE NUMBER: MUS2340

CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: 48

Lab:

Clinic:

Other:

PREREQUISITE(S):

COREQUISITE(S):

PRE/COREQUISITE(S):

COURSE DESCRIPTION :

This course will offer the student a comprehensive study of the Musical Instrument Digital Interface (MIDI) and its many musical applications with an emphasis on sequencing and sound design. Concepts of music synthesis and sound design are presented through the use of a computer, keyboard, and appropriate software.

UNIT TITLES

PART I. Musical Instrument Digital Interface

1. Basics of MIDI
2. MIDI Messages
3. Control Messages
4. General MIDI and Standard MIDI Files
5. MIDI and the Computer
6. Sequencing with MIDI
7. MIDI Software

PART II. Sound Design

8. Nature of Sound
9. Modular Functions
10. Synthesis
11. Sampling

EVALUATION:

Students will be evaluated through weekly quizzes, in-class written tests, out of class assignments, and mid-term and final exams

Common Course Number: MUS2340

UNITS

Part I. Musical Instrument Digital Interface

Unit 1 Basics of MIDI

General Outcome:

1.0 The student shall gain an understanding of the basics of the MIDI protocol

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

1.1 Understand the following characteristics of the MIDI protocol:

1.1.1 Why MIDI was introduced and how it started

1.1.2 The different components that make up the MIDI protocol

1.1.3 How MIDI is transmitted

1.1.4 The types of connectors, cables and jacks that are used to transport MIDI data

1.1.5 Differences of MIDI In, Out, and Thru

1.1.6 What MIDI channels are and how they work

Common Course Number: MUS2340

Unit 2 MIDI Messages

General Outcome:

2.0 The student shall gain an understanding of the concept of MIDI messages.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

2.1 Understand the structure of a MIDI message

2.2 Understand the different types of MIDI messages

2.2.1 Status Message

2.2.2 Data Message

2.2.3 Channel Voice Messages

2.2.4 System Common Messages

2.2.5 System Real Time Messages

2.2.6 System Exclusive Messages

2.3 Understand what these messages contain and what their values represent.

Common Course Number: MUS2340

Unit 3 Control Messages

General Outcome:

3.0 The student shall gain understanding of MIDI control messages.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

3.1 Understand what Control Change messages are and how they work

3.2 Understand the functions and values associated with each Control Change message and how they work

Common Course Number: MUS2340

Unit 4 General MIDI and Standard MIDI Files

General Outcome:

- 4.0 The student shall have developed a concept for the General MIDI (GM) standard.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Understand what General MIDI is and why it was developed**
- 4.2 Understand what a General MIDI sound bank is**
- 4.3 Understand what a Standard MIDI file is**

Common Course Number: MUS2340

Unit 5 MIDI and the Computer

General Outcome:

5.0 The student will develop an understanding of how computers and MIDI work

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

5.1 Understand what a MIDI interface is

5.2 Understand the difference between FM Synthesis, Wavetables, and Sound Fonts

5.3 Understand the different scenarios for the computer integration of an existing MIDI studio

Common Course Number: MUS2340

Unit 6 Sequencing with the Computer

General Outcome:

- 6.0 The student shall develop an understanding of the process of using a sequencing software program**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Set up a sequencer to record MIDI from one or more MIDI inputs.**
- 6.2 Understand the basic MIDI editing environments found in sequencers.**
- 6.3 Use MIDI files to create music notation**

Common Course Number MUS2340

Unit 7 MIDI Software

General Outcome:

- 7.0 The student shall have developed an understanding of software instruments and their capabilities**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 7.1 Understand what software instruments are**
- 7.2 Understand how software instruments integrate into the computer environment**
- 7.3 Understand what virtual MIDI ports are**
- 7.4 Be able to automate a software instruments parameters within a sequencer**

Common Course Number: MUS2340

Part II. Sound Design

Unit 8 Nature of Sound and Digital Audio

General Outcome:

8.0 The student shall have acquired a basic understanding of the physical aspects of sound and digital audio

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

8.1 Understand waves and their relationship to sound and software programs

8.1.1 Sine Waves

8.1.2 Triangle Waves

8.1.3 Square Waves

8.1.4 Sawtooth Waves

8.2 Understand the physical properties of sound

8.2.1 Frequency

8.2.2 Amplitude

8.2.3 Harmonic Spectrum

8.2.4 Envelope

8.3 Understand the theory of digital audio

8.3.1 Sampling Rate

8.3.2 Bit Resolution

8.4 Understand Phase Cancellation

Common Course Number: MUS2340

Unit 9 Modular Functions

General Outcome:

- 9.0 The student shall attain a basic understanding of modules and how they are used in sound design and synthesis**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

9.1 Understand modules

9.1.1 Oscillators

9.1.2 Filters

9.1.2.1 Low Pass Filters

9.1.2.2 High Pass Filters

9.1.2.3 Band Pass Filters

9.1.2.4 Notch Filters

9.1.3 Low Frequency Oscillators

9.1.4 Envelope Generators

9.1.4.1 AR Envelope

9.1.4.2 AD Envelope

9.1.4.3 ADR Envelope

9.1.4.4 ADS Envelope

9.1.4.5 ADSR Envelope

9.1.4.6 AHDSR Envelope

9.1.4.7 ADBDR envelope

Common Course Number: MUS2340

Unit 10. Synthesis

General Outcome:

10.0 The student shall have developed an understanding of the different types of sound synthesis

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

10.1 Understand the following types of sound synthesis

- 10.1.1 Additive**
- 10.1.2 Subtractive**
- 10.1.3 FM**
- 10.1.4 Wavetable**
- 10.1.5 Granular**
- 10.1.6 Physical Modeling**

Common Course Number: MUS2340

Unit 11 Sampling

General Outcome:

11.0 The student shall have developed a basic understanding of the concepts of sampling

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

11.1 Understand the following:

11.1.1 Concept of Sampling

11.1.2 Different kinds of samplers

11.1.2.1 Stand Alone

11.1.2.2 Keyboard Based

11.1.2.3 Computer Based

11.1.3 Procedure for editing and looping of samples

Check Placement Score?: No Yes

Degree Type (Mark all that apply): A.A. A.S. A.A.S. T.C.

(Indicate groupings, if more than one. Please use an additional sheet, if necessary.)

A.T.C. V.C.(PSAV) A.T.D.

Course Description (Max 750 characters): This course will offer the student a comprehensive study of the Musical Instrument Digital Interface (MIDI) and its many musical applications with an emphasis on sequencing and sound design. Concepts of music synthesis and sound design are presented through the use of a computer, keyboard, and appropriate software.

Name of Faculty Contact / Telephone Number: **Fernando Ulibarri/954-201-6363**

Date: **9/24/09** mm/dd/yy

pci-05-06 5/05