

MUIN 3762 - Digital Sound Production

Fall 2026 Syllabus, Section 01, CRN 41260,

Credit hours: 3

Instructor

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Public Instructor Information

Professor: Dr. Bryan Helsel

Professional Qualifications:

Ph.D., Music Education, Kent State University

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Course Description

3762. Digital Sound Production. An overview of MIDI and electronic musical instrument technology. Sequencers and mixing in the MIDI environment. Basic compositional techniques using MIDI and the computer and the application of MIDI in the music recording environment. Prereq.: MUIN 1561. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	The MIDI Manual (4th ed.)	David Huber	978-0367549985

Outside of Huber's book, there will be 13 articles posted to Blackboard that will also be required reading.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24		Getting to know each other. Getting to know the syllabus. Introduction to MIDI	Please share something cool about you with me and the class. I'd like to know your talents, passions, prior knowledge of music tech, and what drew you to choose this major or this class.
Wed	8/26		Working with MIDI in ProTools. We'll work together adding notes and editing parameters in a variety of different ways. I'll demonstrate the note input project using ProTools. Brief discussion of Journal project.	Have a few ideas of possible pieces of music that you'd like to use for your note input project. We'll chat about this and help you to narrow it down.

Mon	8/31	Read Huber Chapter 9 – MIDI and the DAW	Working with MIDI in Logic. Discussion of Chapter 9 Determine which DAW (Logic or ProTools for now) suits you best, and decide which piece you'd like to input. Project due next Wednesday.	
Wed	9/2	Read Synth School article 1	Quantization Transposition (those who chose instrumental scores will need this.) Tempo and meter map creation Demonstration of how to bounce, share and finalize project in ProTools and in Logic. Discussion of Synth School article and experiment with Logic's Retro Synth	Create an account on www.bandlab.com
Mon	9/7		Labor Day, no class	
Wed	9/9		Create rubric for Note Input Project Fun with samplers (Bandlab) Bandlab quick tutorial, AI assists with songwriting and with track splitting along with philosophical discussion of AI.	Project Due: Multitrack Note Input
Mon	9/14	Read Synth School part 2	Presentation of Note Input Project Bring snacks to share if you like as we hear presentations. Discussion of Synth School article after presentations	Be prepared to listen to your project and discuss joys and difficulties in completing it. Explain how you accomplished what you accomplished as you share its audio (and on-screen details) with the class.
Wed	9/16	Read Huber chapter 1	Demonstration of MIDI Mix project from initial file download to instrument selection and mixing. Discussion of Chapter 1.	
Mon	9/21		Fun with Drum machines. Logic's drum machine particularly is packed full of features, but we'll compare these to what is available in BandLab and ProTools.	
Wed	9/23	Read Huber Chapter 14 – only sections titled "Art of Mixing" and "Art of Mastering."	Discuss ch. 14 Pair up with a friend and trade projects. Get their ear on the mix you've been working on and get your ear on theirs. Discuss the sounds chosen and the levels of the mix. Get excited about fun bonus point tracks that you might encourage them to add.	
Mon	9/28	Read Synth School article part 3	Design rubric for MIDI Mixing Project Working with the Drummer (and bass and keys) feature in Logic.	Project Due: MIDI Mixing a Pop Song
Wed	9/30		Present your Mix Bring snacks to share if you like as we hear presentations. Discuss article summary that's due next class	Be prepared to listen to your project and discuss joys and difficulties in completing it. Explain how you accomplished what you accomplished as you share its audio (and on-screen details) with the class.
Mon	10/5		Intro to Ableton Live Non-linear functionality Session view Sequencing and loop design	Article summary
Wed	10/7	Read Huber Chapter 2 – MIDI 1.0	Present article summary (1 minute, plus discussion) Discuss chapter 2 - MIDI 1.0 Ableton Live: kinds of tracks, arrangement view creating your arrangement merging arrangement with live performance decisions. Record arrangement or drag/drop arrangement, fades	
Mon	10/12	Read Synth School article part 4	Recording MIDI from Live's Sampler (Simpler) Sampler and sound design Logic Sampler	

Wed	10/14	Read Huber Chapter 3 – MIDI 2.0	Discuss Chapter 3 – MIDI 2.0 Recording audio into Live in both session view and arrangement view. Converting audio to MIDI Warping Discuss Chapter 4 – Cables and connections	
Mon	10/19	Read Chapter 4 – cables and connections	Design rubric for Sampler project Discuss Chapter 4 – Cables and connections Final thoughts on MIDI in composition, the project due today, and the upcoming reading	Due: Sampling Project
Wed	10/21	Read https://theproaudiofiles.com/sound-synthesis-basics/ Be sure to follow links under LFO, and the different types of synthesis: additive, subtractive, FM, AM, and the other links from here on down.	Present Sampling Project Discussion of the reading as it pertains to your synth project	
Mon	10/26	Read Synth School Article part 5	Demonstration of synth project from start to finish Discussion of reading	
Wed	10/28	Read Synth School Article part 6	Class meets in studio 2222 Theremin demonstration Vocoder demonstration Discussion of reading	
Mon	11/2	Read chapter 5 - electronic instruments	Discuss Chapter 5 – electronic instruments Practice editing synth parameters in XPand (ProTools) Practice synth design using the software synths in Logic	
Wed	11/4	Read Synth School Article part 7	Create rubric for Synth Project Discussion of reading Practice synth design using the software synths in Logic and Ableton	Due: Synth Sound Design Project
Mon	11/9	Read Synth School Article part 8	Present Synth Sound Design Project Discussion of reading	
Wed	11/11		Veterans Day, no class	
Mon	11/16	Read Synth School Article part 9	Demonstration of Video Project as culmination of learning throughout this semester. Video tracks in ProTools, Logic, and Ableton Discussion of reading	
Wed	11/18	Read Synth School Article part 10	Drum replacement: Philosophy, when to use, when not to use First, the easy way – audio to MIDI Then, the manual way: Learn how to use keyboard focus mode in ProTools along with drum sounds in Xpand or other software synth to enhance otherwise bland drum sounds.	
Mon	11/23	Read Chapter 6 – MIDI controllers	Discuss Chapter 6 – MIDI controllers Live performance demo with MIDI sequencing, harmonizer Other uses of MIDI and other live performance gadgets Revisit drum replacement if more time is needed Reminder of Journal due Wednesday	Due: Sound for Video Project
Wed	11/25		Thanksgiving break, no class	
Mon	11/30	Read Synth School Article part 11	Present Sound for Video Project	
Wed	12/2	Read Synth School Article part 12	Receive and discuss the take home final, due Wednesday, December 13	Due: Journal of Readings and Discoveries
Mon	12/7		Turn in take home final by Wednesday, December 9	
Wed	12/9		Turn in take home final by Wednesday, December 9	

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