

COURSE OUTLINE

Digital Audio

Course Description

IN 119. Digital Audio. 3 credit hours. This course will enable the student to produce an audio soundtrack in an entirely digital environment. The student will gain a working knowledge of how synthesizers produce monophonic/polyphonic sounds, how sequencers arrange and edit these sounds, how samplers can be used to digitize organic sounds, how effects and equalization can be used to modify these sounds, and how all of these skills can be combined to generate new, digital soundtracks for multimedia.

Course Relevance

Multimedia ads, animations, and games are usually enhanced with audio soundtracks and sound effects. Several software programs have been developed that enable a multimedia developer to loop pre-recorded tracks into an appropriate audio track for projects delivered online and on CDs. Students who successfully complete this course will be functionally conversant with basic aspects of computer-based soundtrack production, as well as sequencer work and digital editing.

Required Materials

IN 119 Textbook:

Gimmel. *Garbage band tips and tricks*. PC Publishing.

USB drive, 1 GB minimum

Learning Outcomes

The intention is for the student to be able to

1. Build soundtracks from digital loops and recordings that demonstrate an understanding of the critical concepts and processes involved in computer-based music production

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Field-Related Technology
 - Through the creation of digital soundtracks, the student will demonstrate skills in the field of computer-based music.

Secondary skills (developed but not documented):

Listening

Time Management

Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. Creating an original 3-minute musical composition developed from original synthesized sounds

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Synthesizing, sampling, arranging, and modifying sounds
 - B. Publishing a finished, mastered digital composition
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Soundtrack production methods: traditional vs. computer
 - B. Sonic clip art vs. original digital compositions
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. How digital tools capture, generate, sequence, and modify sounds
 - B. How to master a track to professional standards
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Explain how digital sound tools are used
 1. Capture tools
 2. Generation tools
 3. Sequencing tools
 4. Modification tools
 - B. Use open source sound synthesis software and MIDI freeware in conjunction with the use of VST's to create digital sound
 1. Midi freeware
 2. Open source
 3. VST's
 - C. Achieve competency in the use of digital audio tools, including:
 1. Samplers
 2. Sequencers
 3. Mixers
 4. Equalizers
 5. Synthesizers
 - D. Explain how song composition on a computer differs from song composition using traditional compositional tools
 1. Traditional composition
 2. Electronic/digital composition
 - E. Create original musical compositions developed from original synthesized sounds
 1. Sound synthesis techniques
 2. Music structures and forms
 - F. Demonstrate the ability to master a track to professional standards
 1. Professional specifications
 2. Mastering process

Learning Units

- I. Getting started with digital audio
- II. Tools overview
 - C. Open source sound synthesis software
 - D. MIDI freeware
 - E. VST's
- III. Samplers
- IV. Sequencers
- V. Mixers
- VI. Equalizers
- VII. Synthesizers
- VIII. Song composition
- IX. Mastering tracks

Learning Activities

Independent and collaborative learning activities will be assigned within and outside the college classroom to assist the student in achieving the intended learning outcomes. Homework, small group projects, readings, computer exercises, and research assignments will prepare the student to complete the major summative assessment task.

Grade Determination

The student will be graded based on satisfactory completion of the major summative assessment task, attendance, participation, and the timely completion of class exercises and tutorials.