# RARITAN VALLEY COMMUNITY COLLEGE
## ACADEMIC COURSE OUTLINE

## MUSC 190: DIGITAL MUSIC COMPOSITION I

### I. Basic Course Information

A.  Course Number and Title: MUSC 190: Digital Music Composition I

B.  New or Modified Course: Modified

C. Date of Proposal:  Semester: Fall 2019     Year: 2019

**D.  Effective Term:  Fall 2020**

E. Sponsoring Department: Arts & Design

F. Semester Credit Hours: 3

G.  Weekly Contact Hours:   4          Lecture: 2
                                        Laboratory: 2
                                        Out of class student work per week: 5

H.  Prerequisites: none

I. Laboratory Fees: Yes

J.  Arts & Design Co-chairs: John Sichel, john.sichel@raritanval.edu
                            Vandana Nadkarni: vandana.nadkarni@raritanval.edu
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### II. Catalog Description

Prerequisites: none. This course is an introduction to the use of computers and MIDI (Musical Instrument Digital Interface), using software sequencing and software synthesizers to compose, record, edit, and perform music.  Aspects of MIDI, digital audio and acoustics will be studied, as well as the fundamentals of synthesizer programming. (Students will be required to supply their own headphones – ¼" jack)

### III. Statement of Course Need

A. Synthesizers and the musical application of computers through the use of MIDI, digital recording, and the manipulation of digital audio have revolutionized the music industry.  The demand for trained and experienced musicians in this field is high.  This course satisfies the needs of the novice electronic musician and provides an introduction to many areas of today's rapidly evolving musical technology.  Music majors are encouraged to consider this course as an elective, relevant to their studies in theory and composition.

B. This course is taught in A-09B, our digital composition and music lab, equipped with computer stations and appropriate musical technologies and software.

C. Course transferability:  Based on evaluations by the njtransfer.org website, this course transfers to most Associate and Bachelor programs as an equivalent music course in Music or Fine Arts.  Kean University, Montclair State University, City University, Rowan University, and William Paterson University have similar courses.

## IV. Place of Course in College Curriculum

A.  Free elective
B.  This course serves as a studio arts elective for AA Liberal Arts Majors
C. This course serves as a program option for the AFA Music degree..
D. To see course transferability for New Jersey colleges and universities, go to the NJ Transfer website, www.njtransfer.org; for other colleges and universities, go to the individual college website.

## V. Outline of Course Content
A. MIDI Basics
    1. MIDI Defined
        a. history and purpose
        b. MIDI connections
    2. Advantages and Limitations of the MIDI protocol
    3. MIDI Messages
        a. Channel Voice messages
        b. Control Change messages
    4. General MIDI
    5. MIDI files
B. Equipment for digital composition
    1. Computer platforms
    2. Software
        a. Digital audio workstations
        b. Software synthesizers
        c. Plug-in effects and instruments
    3. Hardware
        a. Soundcards
        b. RAM and memory
        c. Internal and external storage

C. Acoustics
    1. Basic elements of Acoustics
        a. Frequency
        b. Amplitude
        c. Duration
        d. Timbre
D. Digital Audio
    1. Digital Audio Defined
        a. Sampling Rate
        b. Bit depth
        c. the Nyquist Frequency
        d. CD quality digital audio
E. Software Synthesis
    1. Basic types of synthesis
    2. Synthesizer basics
        a. Oscillator
        b. Filters
        c. Envelopes
        d. Low Frequency Oscillators (LFOs)
F. Audio effects and signal processing
    1. Send effects
    2. Insert effects
    3. Effect types
        a. Characteristics and purpose
        b. Application of effects
G. Sequencing with a PC
    1. Audio Connections
    2. Main sections of the sequencing software
    3. Recording, editing, and playing back MIDI information
    4. Selecting instruments and patches
H. Compositional Techniques
    1. Orchestration and Arranging
    2. Pitch and Harmony
    3. Rhythm
    4. Form
    5. Melody
    6. Timbre and Texture
I. Producing the final product
    1. Mixing digital audio
        a. Equalization
        b. Panning
        c. Volume levels and fades
        d. Applying effects
        e. Mix down to CD quality stereo audio file

## VI. General Education and Course Learning Outcomes

### A. General Education Outcomes

The student will:
demonstrate the applications of various hardware and software technologies, including MIDI controller, sequencers and synthesizers to the processes and applications of digital music composition.  (GE-NJ 4, 6, *)

### B. Course Learning Outcomes

The student will be able to:
1.  identify and interpret basic concepts related to digital audio.
2.  outline and translate the basic concepts of music synthesis.
3.  integrate the technological processes required to create, record, orchestrate, mix, edit and store digital compositions.

(* embedded critical thinking)

### C.  Assessment Instruments
1. weekly laboratory work and preparation
2. written examinations or quizzes on factual aspects of the course content
3. composition/arrangement assignments
4. creativity, effort, participation, attendance

## VII. Grade Determinants
A. Written exams and/or quizzes
B.  Weekly homework
C.  Composition, arrangement, orchestration projects
D.  Class participation, effort, progress, attendance

Formats, modes and methods that may be used for teaching and learning:
A. lecture/discussion
B. small-group work
C. computer-assisted instruction
D. laboratory
E. student oral presentations

## VIII. Texts and Materials
**Text:**  None

(Please note:  The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline.  The RVCC bookstore is the sole resource for the most up-to-date information about textbooks.)

**Materials:**  Students must purchase their own:
Headphones (1/4" jack)
Recordable compact discs

**IX. Resources**
- A. Soundproof studio
- B. Computer workstations with professional quality audio cards
- C. Sequencing Software
- D. Software synthesizers
- E. Compact Disc burning software
- F. Audio Playback system