



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MUTX-202	Fundamentals of Computer Music 2	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
MUTX-140, MUTX-201	Music & Dance	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Concentration	Music Technology	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr. Haris Sophocleous	3 <sup>rd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-face	N/A	N/A

### Course Objectives:

The main objectives of the course are to:

- Stimulate a response on the nature of digital sound in computer music.
- Provide an understanding of the existing conceptions of sound in electronic music.
- Equip the students with the ability to handle advanced exercises in sound from 'low-level' approaches as building blocks to larger musical structures.
- Familiarize the students with designing sound compositions from the ground up to a fully fledged compositional project.
- Familiarize students with basic circuits based on IC chipsets.
- Promote basic music programming skills.

### Learning Outcomes:

After completion of the course students are expected to be able to:

- 1) Compose advanced original compositions designed to introduce the students to relevant aesthetics, historical and technical issues which have acquired throughout the two-semester sequence of this course (Fund. Of Comp. Music I and II).
- 2) Demonstrate their ability to listen to music critically
- 3) Evaluate their own sound projects as well as those of others
- 4) Identify the traditional concepts of sound
- 5) Evaluate critical issues of computer music.

### Course Content:

- Brief historical overview of Futurism and techniques used in their compositions.
- Design a noise machine based on old Intonarumori scores.
- Theremin: design a Theremin based on a 555 chipset and photoresistors.
- Henry Cowell and the rhythmicon (mathematic ratios).
- Pythagoras and harmonic ratios.
- Design a polyrhythmic composition based on Xronomorph polyrhythmic software and SLAPI just intonation software.
- Integrated chipsets: design a NAND synthesizer with FM synthesis.
- Algorithmic composition: OpenMusic software (IRCAM). Design of a Chaos patch.
- Granular synthesis: Soundgrain software
- Csound: Cecilia software.

### Learning Activities and Teaching Methods:

Lectures; laboratory activities; group work; projects; class participation; exams

### Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
The Past and Promise of Electronic Music	Simon Emmerson	Macmillan Press	1986	978-0333397602
Handmade Electronic Music	Nick Collins	Routledge	2006	0-415-97591-3

### Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
OpenMusic Tutorials	Karmi Haddad and Mikhail Malt	N/A	N/A	<a href="http://recherche.ircam.fr/equipes/repmus/OpenMusic/userdoc/DocFiles/Tutorial/foreword/Index.html">http://recherche.ircam.fr/equipes/repmus/OpenMusic/userdoc/DocFiles/Tutorial/foreword/Index.html</a>
OpenMusic and Chaos	N/A	N/A	2010	<a href="http://www.algorithmiccomposer.com/2010/04/algorithmic-composition-openmusic-and_25.html">http://www.algorithmiccomposer.com/2010/04/algorithmic-composition-openmusic-and_25.html</a>