



## 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>
Thematic Area	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> – 4 <sup>th</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:

- Demonstrate an advanced rational judgement of the nature of digital sound in computer music.
- Identify the existing conceptions of sound in electronic music.
- Apply computer music software to facilitate creation of advance exercises in sound from 'low-level' approaches as building blocks to larger musical structures.
- Use the computer to explore their creativity in designing sound compositions from the ground up to a fully fledge compositional project.
- Construct and evaluate basic circuits based on IC chipsets.
- Identify, illustrate and develop basic music programming skills.

### Learning Outcomes:

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

- 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).
- Acquire hand-on experience in class and critical listening skills, which will engage the students in various self, peer and group evaluations of their projects.
- Examine traditional conceptions of sound and must also support and deliver oral presentations on critical issues on 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

### Assessment Methods:

Attendance; Practical Project No.1; Practical Project No.2; Practical Project No.3

### Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
<i>Electronic Inspirations</i>	Jennifer Iverson	Oxford University Press	2018	978019086192
<i>Creating Sounds from Scratch</i>	Andrea Pejrolo and Scott B. Metcalfe	Oxford University Press	2017	9780199921874
<i>The Past and Promise of Electronic Music</i>	Simon Emmerson	Macmillan Press	1986	978-0333397602
<i>Handmade Electronic Music</i>	Nick Collins	Routledge	2006	0-415-97591-3

**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
<i>OpenMusic Tutorials</i>	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>
<i>OpenMusic and Chaos</i>	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>