



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MUTX-201	Fundamentals of Computer Music 1	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
MUTX-140	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:

- Promote a modular approach of thinking to understand the nature of digital sound in computer music.
- Familiarize the students with the existing conceptions of sound in electronic music.
- Explore computer music software to facilitate creation of exercises in sound from 'low-level' approaches as building blocks to larger musical structures.
- Enrich student creativity in designing sound compositions from the ground up to a fully fledged compositional project.

### Learning Outcomes:

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

1. Demonstrate basic understanding of the fundamentals of computer music creation.
2. Organize sound using standard computer music techniques in a variety of computer music software.
3. Demonstrate a basic ability to abstract computer music principles and techniques from their form of representation in each software.
4. Evaluate through compositional work their understanding of idiomatic approaches to sound creation.

**Course Content:**

- Brief historical overview and techniques used in the Electronic Studios of the 50s, 60s and 70s (WDR, GRM).
- Synthesis 101: Oscillator, simple additive synthesis based on mathematical formulas, FM, AM, RM synthesis, delay and reverb.
- Subtractive synthesis.
- Fast Fourier Transform: Analysis and re-synthesis of audio samples into usable soundscapes. Timbral manipulation.
- ‘Musique concrete’: theory and formulation of a basic composition based on the integration of common techniques of that era.
- ‘Elektronische Musik’: theory and formulation of a basic composition based on the integration of common techniques of that era.
- Design basic sound modules for various performances/installations/compositions.

**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
Introduction to Computer Music	Nick Collins	Wiley	2010	978-0470714553

**Recommended Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Electronic and Computer Music	Peter Manning	Oxford University Press	1993	0-19-816328-2