course beginning: autumn autumn

subject catalogue S23 K24

course code KOE510

name of course

Audio Programming Language I

specification

elective for BA and MA level

academic instructor
T.Johannes

prerequisite course

no of terms
1

contact hr/total
30.0

hr/term
30.0

hr/week
0.0

ECTS/total
3.00

Lect
0.0
Grp
30.0
Ind
0.0
Sem
0.0
Pract
0.0

graded or pass/fail exams

A

term

1

ECTS

3.00

aim of the subject

To introduce basics of the oldest and most developed open source sound creation and manipulation software Csound; to learn to write simple Csound programs that create or process sound; extend knowledge about sound and basics of digital signal processing. Minimal required size of group: 4 students.

content

The course uses open source, free, cross-platform software Csound (http://csound.github.io) as its learning bases. The course is practical - the students write most basic Csound files based on examples and hints by the tutor on their computers, the theory is explained side by side with the practical work.

Main topics:

1. Csound and its different application possibilities; CsoundQt and other wide-spread front-ends; how to learn (getting help and finding info).

2. Introduction to Csound syntax, creation of most simple sounds and processing them (white noise, sine, saw-wave and other tones, envelopes, filters).

3. Basics of programming (types of variables, conditional sentences and loops, random generators; understanding Csound working cycle).

4. Control of the Csound instruments via MIDI keyboard or other controllers.

5. Using pre-recorded files and live input.

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learning outcomes

On completion of the subject the student:

- is able to write a short piece (2..3 minutes) in Csound,

- knows the basics of Csound,

- can find helping information, use the manual and front-end CsoundQt,

- knows most basic sound synthesis techniques.

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assessment

Non-differentiated assessment. The precondition for assessment is participation in at least 60% of academic work and presented piece written in Csound.

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assessment criteria

- presented piece (2..3 minutes) written in Csound

- knowledge of basics of Csound

- skills of obtaining helping information

- participation of at least 60% of the lectures.

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course reading material

Materials an examples compiled by tutor;

Manual of Csound, Csound FLOSS manual,

R. Boulanger „The Csound Book“;

Lazzarini, Yi, ffitch, et al „Csound – A Sound and Music Computing System”

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author of course description

Tarmo Johannes