

**General module information**

Title: Real-time Interaction and Performance

Type: course module

Language of instruction: English

ECTS points: 5 ECTS

Period: 1 February 2016 — 30 June 2016

**Placement**

2<sup>nd</sup> semester, M.Sc. in Sound and Music Computing

**Module coordinator**

Copenhagen: Dan Overholt and Cumhur Erkut (coordinators)

**Academic content and relationships to other modules/semesters**

The formal study plan description of the module can be found here (page 15):

[http://www.sict.aau.dk/digitalAssets/101/101055\\_94332\\_kandidat-lyd--og-musik.pdf](http://www.sict.aau.dk/digitalAssets/101/101055_94332_kandidat-lyd--og-musik.pdf)

The course focuses on the real-time interaction from conceptual and technological perspectives. Conceptually, by following an annually updated primer, we overview the rich and expressive real-time human-machine interactions within the framework of New Interfaces for Musical Expression (NIME). We study the concepts of ‘controlling device’ and ‘mapping’ in depth, within a musical context. In the technological part, programming languages paradigms and different real-time communication protocols between applications are studied.

**Objectives and learning goals****Knowledge**

- Understand the concept of real-time interaction
- Knowledge on the history and taxonomical study of musical instruments
- Understanding of the concept of musical controller, mapping, and feedback
- Understanding real-time human-computer interaction in a musical performance perspective.
- Understanding protocols of real-time communication in musical performance

**Skills**

- Apply knowledge to the design of an interface for musical expression

**Competences**

- Apply appropriate methods and theories for real-time interaction to the design of a novel interface for musical expressions.

**Extent and expected work load**

The total workload is 5 ECTS. The course is organized as 12 lectures with exercises, which include a two-day workshop, and individual project work.



### Pre-requisites for participation

The prerequisites for the course module are the mandatory courses on previous semesters of the M.Sc. program in Sound and Music Computing.

The prerequisites for participation are listed in the study plan:

[http://www.sict.aau.dk/digitalAssets/101/101049\\_10209\\_medialogi--aalborg--esbjerg-og-k--benhavn--2010.pdf](http://www.sict.aau.dk/digitalAssets/101/101049_10209_medialogi--aalborg--esbjerg-og-k--benhavn--2010.pdf)

### Examination

As part of the course, each student is required to complete an individual 2 ECTS project, in which contents covered in the course is applied to an implementation of real-time interaction and performance in a musical context, with relevance to Sound and Music Computing. The oral exam will be based on this project and submitted short report, plus the theory covered in the lectures. The student must demonstrate that he/she understands the involved theory, concepts and methods.

Failure to meet these criteria will lead to an automatic failed grade. The exam will be an individual 20 minutes (everything included) oral exam. It will be based on the project (report and practice) and the contents of the lectures (theory). The student will present the project to the examiner who will ask questions about the project and the general curriculum. The student must prepare a demonstration of the real-time interaction application and a set of slides for presenting the project and the background theory. The source code used in the project must be available at the exam. **To attend the exam, the report, code, and presentation must be uploaded in moodle before the specified deadline.** Failure to comply with the requirements specified here will result in a failed grade. The grade will depend on the quality of the project, the presentation, and the ability of the student to answer questions in relation to the project and the course contents in relation to both theory and practice.