

# Matlab for audio

## Course information

ECTS: 2	Independent from the master in acoustics	Course code :
Lecture : none	Tutorial classes: none	Practical work: 21h

Course coordinator: Christophe Ayrault

## Course Description

### Aim

The aim is to give the basis of Matlab for audio.

### Prerequisite

[Matlab refresh](#)

### Contents

**Time domain computing.** This topic is splitted into 2 sessions:

- 1 . Matlab basics and manipulation of sound waves.
- 2 . Sound envelopes and synchronous detection

**Frequency domain:** Spectral analysis, direct and inverse Fourier transforms, frequency resolution, windowing, spectrograms.

**Musical sounds:** analysis & synthesis of musical sounds

**Mini Project:** simulation of a microphone pair recording and writing of flanging effect function.

### Examination duration

2 hours

### Examination type

Practical exam