

UE Signal processing

 ECTS
6 credits

 Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)

 Semester
Automne

- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** PAX9GPAB/PAX7GEAA

Presentation

Description

The scope of this course is to cover the fundamentals of numerical data processing. The main emphasis is on analysis of time series, such as seismic signals, even though the concepts can be transposed to any numerical signal. One major aim of the course is to illustrate some of the many pitfalls and problems that students (and researchers alike) can come across when analyzing signals.

The course is split into two equal parts. The first one introduces the theoretical framework of signal processing i.e., sampling, Fourier Transform, convolution, correlation and filtering, while the second one focuses on practical applications. In this second part, the students address specific subjects of signal processing (such as sampling issues, measurements of time delays, filtering, $f-k$ analysis, wave separation ...) in 4-hour lab work sessions performed on computers.

Course parts

TD	Tutorials (TD)	6h
CMTD	Lectures (CM) & Teaching Unit (UE)	21h
TP	Practical work (TP)	15h

Period : Semester 9

Useful info

Place

› Grenoble

Campus

› Grenoble - Saint-Martin d'Hères