

UE Information visualization



Level
Baccalaureate
+5



ECTS
3 credits



European Credit
Transfer and
Accumulation
System (ECTS)
Exchange
credits
3.0



Component
UFR IM2AG
(informatique,
mathématiques
et
mathématiques
appliquées)



Semester
Automne

- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **European Credit Transfer and Accumulation System (ECTS) Exchange credits:** 3.0
- > **Code d'export Apogée:** GBX9MO37

Presentation

Description

Interactive Information Visualization (InfoVis)

InfoVis is the study of interactive graphical representations of abstract data (e.g. graphs linking people in social networks, series of stock options values evolving over time).

Graphical representations are a powerful way to leverage the human perceptual capabilities to allow the user to explore and make sense of abstract data, and also to expose findings and convey ideas.

But to be efficient, a visualization has to be designed using knowledge about the human visual perception, the characteristics of the data, the kind of task that will be performed on those data.

The aim of this course is to provide the keys, both theoretical and practical, to build usable and useful interactive visualizations.

program summary:

- foundations: human visual perception, graphical variables, data types, the visualization pipeline.
- linked data: tree and graph visualization
- tabular data: time series and spatial data visualization
- dealing with large data: aggregation, multiple views, interaction
- validating visualization: visualization tasks, evaluation

Course parts

Lectures	Lectures (CM)	18h
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Recommended prerequisites

Basic knowledge of linear algebra, graph theory, computer graphics, code complexity, programming

Period : Semester 9

Skills

- know the scientific foundations of InfoVis;
 - analyze data sets using visualization techniques; and
 - build visualizations that convey information and ideas.
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Bibliography

Visualization Analysis and Design, Tamara Munzner

Useful info

Contacts

Program director

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Place

> Grenoble

Campus

> Grenoble - University campus