UE Operations Research

Level
Baccalaureate +4

ECTS
3 credits

Component
UFR IM2AG (informatique, mathématiques et mathématiques appliquées)

Semester
Printemps

- **Teaching language(s):** English
- **Teaching method:** In person
- **Teaching type:** Lectures
- **Open to exchange students:** Yes
- **Code d'export Apogée:** GBX8MO11
- **Personal working time for the student:** 30

Presentation

Description

Operational Research proposes scientific methods
to help make better decisions. The idea is to develop and use mathematical and computer tools to master complex problems. Practical applications are historically in the direction and management of large systems of people, machines, and materials in industry, service, humanitarian aid, environment ...
In this course, we will focus on especially on problems with a combinatorial structure: the number of possible solutions is finite but too large to be enumerated. The study of these problems involves a phase of modelling practical problems and then algorithmic resolution.
At the end of this course, students will be able to propose a model and will be able to implement practical solutions (dedicated or industrial tools) to deal with a problem of decision or optimization.

Course parts

TD	Tutorials (TD)	16,5h
CM	Lectures (CM)	16,5h

Recommended prerequisites

No prerequisites required but a good understanding of algorithmic courses is a plus.

Period : Semester 8

Skills

- Recognize a situation where operational research is relevant.
- Understand the main tools of operational research.
- Have the methodological elements to choose, when faced with a practical problem, the methods of resolution and the most adapted tools.
- Know how to manipulate computer tools to solve a discrete optimization problem.

Useful info

Contacts

Program director

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Place

Grenoble

Campus

Grenoble - University campus