HEC-501

Risk analytics

Profs divers *

Cursus	Sem.	Type
Managmt, dur et tech	MA3	Opt.

Language of teaching	English
Credits	6
Session	Winter
Semester	Fall
Exam	During the semester
Workload	180h
Weeks	14
Hours	**4 weekly**
Courses	4 weekly
Number of positions	

Remark

MA3 only - Courses given on UNIL Campus

Summary

The course addresses risk management of extreme events. Models for extreme events are presented, as well as tools for risk measurements. Applications include evaluating risk in the fields of finance, insurance, meteorology and environment, from time series data and others.

Content

Topics:
Time series
- ARMA processes
- GARCH processes

Extreme value theory
- Block maxima
- Peaks over threshold

Risk measures
- Return level
- Value at risk
- Expected shortfall

Learning Prerequisites

Required courses

Assessment methods

Evaluation:
- 3 practicals have to be done during the semester, handed in in a report
- a presentation of the 3rd practical take place the last week
- the final grade is 0.5 * report grade + 0.5 * presentation grade