Data management and analytics

Lecturer
Pierre DEVILLE (Coordinator)

Course mnemonic
STAT-S502

ECTS credits
5 credits

Language(s) of instruction
English

Course period
Second term

Course content
- Relational Databases (Python & SQL)
- NoSQL Databases (MongoDB)
- Data Sources and Acquisition
- Data Security and Privacy
- Supervised Learning
- Unsupervised Learning
- Text Mining

Objectives (and/or specific learning outcomes)
At the end of this course, students will be able to
- Understand the challenges and limits associated to the Big Data phenomena in a business and economic context
- Acquire and exploit different types of large-scale data in the context of relational and non relational databases
- Analyse large-scale data using machine learning, data mining and text mining concepts in order to solve complex problems in business or economics.

Teaching method and learning activities
36h of Theory and 24h of guided exercises

Contribution to the teaching profile
The course contributes to the development of the following skills of the program profile:
- Design and exploit large-scale databases in order to extract relevant information through quantitative tools.
- Ad-hoc identifying appropriate data and getting access to it for empirical analysis
- Analyse complex problems “out of the box” while respecting rules of experimental and scientific methods in order to design innovative solutions
- Use of machine learning, data mining and text mining techniques in order to help develop decision, evaluation and prospective tools
- Demonstrate good summarizing skills to go to the essentials in his communication

References, bibliography and recommended reading

Other information

Contact(s)
pdeville@ulb.ac.be

Evaluation method(s)

Evaluation method(s) (additional information)
Written exam and group projects

Determination of the mark (including the weighting of partial marks)
Written exam (70%) + group projects (30%)

Main language(s) of evaluation
English and French

Programmes

Programmes proposing this course at the Solvay Brussels School of Economics and Management
MA-ECON | Master in Economics : General | finalité Business Economics/unit 1 and MS-BGDA | Specialized Master in data science, Big data | unit U

Programmes proposing this course at the faculty of Sciences
MA-ACTU | Master in Actuarial Science | finalité Professional/unit 2 and MS-BGDA | Specialized Master in data science, Big data | unit U
Programmes proposing this course at the
Brussels School of Engineering

MS-BGDA | Specialized Master in data science, Big data | unit U