Master diploma in Science and engineering of data (SID)

UNIVERSITÉ TOULOUSE III PAUL SABATIER

Caracteristics

Geographic location(s)
Université Toulouse III - Paul Sabatier
Campus de Rangueil

Type of training
> Initial training
> Apprenticeschip
> Continuing education
> VAE

Level of education
Master

Accessible in
> Face-to-face teaching

Distinction
Mathématiques et Applications

Partner Institutions

Contacts
Responsible teacher :

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Accommodation capacity

Terms of access
> Master diplomas are open to candates owning a first cycle degree (180 ECTS) or equivalent in a corresponding domain.
> Admission is decided after a selection and based on the capacity of the diplomas as defined by the university.
> Depot of applications must be done through le site e-candidat (see Candidater).

Presentation
The Science and Engineering of Data (SID) course is resolutely focused on the data engineering professions, which covers all aspects : from data collection to statistical exploitation and machine learning, including storage and the management of massive and distributed big data databases. It enables students to acquire dual skills in statistics and business intelligence, supplemented by business knowledge and professional practice acquired through several internships.

This dual skill, still insufficiently common in France, is highly valued on the job market.

The SID course is common to the Mathematics and Applications grade and to the Computer science grade.

Prospects and professional integration
Opportunities are found in all sectors where the establishment, administration and use of information are essential for decision-making. Most students are hired at the end of their M2 internship.
Average salary: between 28,000 and 35,000 € gross per year.

Knowledge
> In order to acquire the ability to master from end to end the increasingly complex and crucial information systems that are at the heart of the knowledge economy, students learn alla of the following:
> Prepare for data collection (experimental planning, survey and sampling techniques, precision techniques, quality control).
> To develop and deploy the latest generation information systems (data warehouse, large-scale distributed databases, Business Intelligence, W3C standards, security and reliability, etc.).
> To analyze these data with the appropriate statistical methods (estimation and tests, exploratory statistics, Gaussian and Bayesian models, biomedical and textual statistics, statistical control of processes, optimization, chronological series, data mining, machine learning, etc.).

Skills
> (level M) - Extract relevant information from textual or structured data sources in order to enhance them (decision support, information research, data mining) in a business, in an administration, or in a research environment.
> (level A) - Build and validate a mathematical model to process datasets in order to develop decision support tools in business, in an administration, or in a research environment.
> (level M) - Analyze masses of data and build dashboards for the management of institutions.
> (level E) - Carry out a statistical study from planning to analysis and synthesis of results (survey, marketing, health, industry).
> (level E) - Design and develop an information system (relational database or NoSQL) to help the functioning of an organization.
> (level M) - Maintain and analyze a decision-making system to manage the resources of an organization.
> (level M) - Work in a team by following project management methodologies

Program
Web site : https://departement-math.univ-tlse3.fr/titulaire-d-une-licence