Master diploma in Applied Mathematics for engineering, industry and innovation (MAPI3)

UNIVERSITÉ TOULOUSE III PAUL SABATIER

Caracteristics

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

Level of education
Master

Distinction
Mathématiques et Applications

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

Accessible in
> Face-to-face teaching

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 diploma in Applied Mathematics for engineering, industry and innovation (MAPI3) aims at forming polyvalent mathematical-engineers mastering the different domains of applied mathematics.
The current needs of industry and services push to using mathematical tools and methods at all levels of conception, production and management of goods and services.
The MAPI3 diploma's goal is then to provide a broad vision on fundamental mathematical methods and tools used in professional world.
Basing on complementarity,the diploma MAPI3 associates competences in statistics, analysis, numerical calculus and algorithmics.

Prospects and professional integration
> Actuary, client analyst,econometrician
> Project manager, consultant
> Data-scientist
> R&D engineer
> Scientific computing engineer
> Quality and safety manager
> Statistician, risk analyst

Knowledge
> Statistics
> Machine Learning
> Big Data
> IT : high performance computing
> Imaging
> Scientific computation
> Optimization and Operational Research
> Random and deterministic modeling
> Software: C ++
> Software: R and Python

Skills
> Understand and know how to use state-of-the-art mathematical methods in machine learning, statistics, optimization, image processing and scientific computing
> Understand and model mathematically, with a view to their full effective realization, problems arising from other scientific fields (physics, chemistry, biology, environment, social sciences, etc.) or from industry, management, services
> Find and assimilate new mathematical tools and concepts by reading documents possibly in English
> Rely on mathematical tools to check the validity of proposed models
> Build an efficient numerical algorithm to solve a mahematical model
> Prove a property or an algorithm by deploying a mathematical proof
> Implement a model on an IT support
> Interpret the results of experiments according to the theory associated with the model used
> Communicate and disseminate advanced mathematical content, orally and in writing

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

SCUIO-IP - Service Commun Universitaire d'Information, d'Orientation et d'Insertion Professionnelle
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