

Contacts

Location

UNIVERSITÉ DE PAU
ET DES PAYS DE L'ADOUR

College of Sciences and Technology
for Energy and Environment
Pau Campus - France

Coordinator

jacques.giacomoni@univ-pau.fr

More information

[http://formation.univ-pau.fr/
m-mathematics-msid](http://formation.univ-pau.fr/m-mathematics-msid)

Admission Office

master.programs@univ-pau.fr

How to apply

The application documents must
be uploaded on the website:

<https://ri.univ-pau.fr/m-programs>



Admission requirements

Academic requirements

All students who have completed four years in statistics or in applied mathematics in a higher education institution can apply.

Limited number of students: 20 per year.

English Language Requirements

CECRL B2 level in English, or CECRL B1 level in English and CECRL B2 level in French. All teaching materials will be provided both in English and French. Students are allowed to use English or French during exams.

Detailed Program Facts

Academic Year: Our full academic year runs from September to June

Application: Applications are open from November to March 31st

Program intensity: Full-time

Duration: 1 year

Credits: 60 ECTS

Language: Fully taught in English

Level: Master's degree



**Master's
degree**
MATHEMATICS
AND APPLICATIONS

Stochastic tools and Computational Methods for Decision

Conception : Direction de la communication - Impression : Centre de reprographie - LUPPA - Février 2023



Overview

This degree is delivered after 12 months.

This program offers advanced courses on statistical analysis, machine learning and computer tools for handling data.

This program allows to continue with doctoral studies, either in an academic context or in an industrial context (collaboration between industry and UPPA).

The master is fully taught in English and is hosted at the College of Sciences and Technologies for Energy and Environment (STEE) of the Université de Pau et des Pays de l'Adour (UPPA) in France.

The STEE College has been founded within the framework of the prestigious French Initiative of Excellence label I-SITE (Initiatives Sciences, Innovation, Territories and Economy), obtained by our E2S-UPPA project.

Student Learning Outcomes

At the end of this program, the students in MSID will be able to:

- Conduct an appropriate statistical analysis
- Apply any classical statistical methods
- Construct and analyze an experimental design
- Propose and analyze a stochastic model
- Implement stochastic simulation methods
- Manage databases

Opportunities

Sectors

- Industry
- Services
- Academic

Fields

- Pharmaceutic and medicine
- Bank and insurance
- Transportation, aeronautics, space
- Energy (oil & gas, nuclear, renewal, etc.)

Positions

- RAMS engineer
- Statistical analyst
- Data scientist
- Data processing engineer
- Biostatistician
- PhD students

67% of graduates are currently employed
17% are pursuing their studies with a PhD
30 months after graduation (class of 2019)

The program is carried out in close collaboration with the LMAP research laboratory where scientific and experimental practicals will be performed. Students will also benefit from the global research environment and administrative support of the University and of the E2S I-site program.

Program objectives

- This programme aims to provide strong skills in stochastic modeling and statistical methods for data analysis, jointly with the associated computer tools.
- Courses are focusing both on applications in industry, especially in the area of quality control and safety analysis, and on applications in datamining and machine learning.
- Courses are taught by academics but also by engineers
- According to the excellency of students and their desire to pursue doctoral studies, courses about “advanced statistics” and “advanced applied probability” can be offered.

M2 - Semester

Course Title

- Reliability theory
- Survival analysis
- Datamining
- Advanced machine learning
- Mathematical Engineering of deep learning
- Tools for RAMS
- French or English as a Foreign Language B2/C1

Electives

- Design of experiments
- Statistical process control
- Monte Carlo methods
- Data Challenge

M2 - Semester 2

- Integrator project
- Internship from 5 to 6 months