



SCIENCE, TECHNOLOGY, HEALTH

M2 Stochastic tools and Computational Methods for Decision (MSID)

Master Mathematics and Applications



ECTS
60 credits



Duration
1 year



Component
Collège
Sciences et
Technologies
pour l'Energie et
l'Environnement
(STEE)



Language(s)
English

Presentation

Apply here from October to March

This program offers advanced-level courses in statistical analysis, decision computer science, computer modeling, and associated computer tools.

Objectives

This program aims to provide strong skills in stochastic modeling and statistical methods for data analysis, combined with the associated computer tools.

- * Courses focus on applications in the industry, especially in the areas of quality control and safety analysis, but also on applications in data mining and machine learning.
- * Courses are taught by academics but also by engineers

Depending on the excellency of students and their desire to pursue doctoral studies, courses about « **advanced**

statistics » and « **advanced applied probability** » can be offered.

Your university

Skills

At the end of this program, the students in "**Stochastic tools and Computational Methods for Decision**" will be able to:

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

Additional information

Scholarships



- * EIFFEL Scholarship of Excellence
- * Talents' Academy Grants | 🏠
- * Catalogue des Bourses Campus France | 🏠

The International Master Programs Admission Office

master.programs@univ-pau.fr

Organisation

Organization

MASTER 2 Stochastic tools and Computational Methods for Decision (MSID)	
SEMESTER 1	
Course Title	ECTS
Reliability theory	4
UE Survival analysis	4
UE Datamining	2
Advanced machine learning	2
Mathematical Engineering of deep learning	6
Tools for RAMS	4
French or English as a Foreign Language B2/ C1	2
ELECTIVES	6
Design of experiments	4

Statistical process control	2
Monte Carlo methods	4
Data Challenge	2
SEMESTER 2	
Integrator project	10
Internship from 5 to 6 months	10

Trainings

Internship : Mandatory

Internship duration : 5-6 months

Admission

Admission requirements

LANGUAGE REQUIREMENTS

CECRL B2 | 🏠 level in English,

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

ADMISSION REQUIREMENTS

All students who have completed four years in a higher education institution can apply.

A limited number of students: 30 per year

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How to apply

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Tuition Fees and partial exemptions

Administrative tuition in France is determined at a national level. The French Ministerial Order of April 19, 2019, amended on June 9, 2020, sets university tuition for a Master's Program as follows: European nationals: **€243**, extra-European nationals: **€3770**.

For the academic year 2022-2023, the Board of Directors has extended its policy of automatically providing a **partial reduction of these fees at the UPPA**. As a result, extra-European nationals will be granted automatic partial reductions such that **they will be able to pay the same enrollment fees as European nationals**.

Extra fees:

In addition to academic tuition, most students must pay a student body fee (CVEC, which cost €92 in 2020-2021).

*NB: Admitted candidates in any course of study who have taken a break of more than two years from their studies will enroll via the UPPA's **Continuing Education service** (Formation Continue / FORCO). They are exempt from the CVEC, however, they may be subject to a different tuition scale.*

Student capacity

20

And after

Further studies

Doctoral studies, either in an academic context or in an industrial context

Professional insertion

Sectors:

- * **Industry, services, academic**

Fields:

- * **Transportation, Aeronautics, Space**
- * **Energy (oil, gas, nuclear renewal, etc...)**
- * **Pharmaceutics and medicine**
- * **banking and insurance companies**

Positions:

- * **RAMS engineer, statistical analysis, data scientist, data processing engineer, biostatistician, Ph.D. students**

Useful info

Contacts

Head of Studies

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Administration contact

Secrétariat de Mathématiques

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Partner laboratories

Laboratory of Mathematics and its Applications of Pau (LMAP)

🔗 <https://lma-umr5142.univ-pau.fr>



Place

 Pau

Campus

 Pau