

SCIENCES, TECHNOLOGIES, SANTÉ, INGÉNIERIE

Master of Science in industrial and applied mathematics (MSIAM)

Master Mathématiques et applications

Niveau d'étude
visé
Bac +5ECTS
120 créditsDurée
2 ansComposante
UFR IM2AG
(informatique,
mathématiques
et
mathématiques
appliquées),
Grenoble INP
- Ensimag
(Informatique,
mathématiques
appliquées et
télécommunications),
UGALangue(s)
d'enseignement
Anglais

Présentation

Currently, applied mathematics is an area that provides many job opportunities, in industry and in the academic world. There is a great demand for mathematical engineers on topics such as scientific computation, big data analysis, imaging and computer graphics, with applications in many fields such as physics, medicine, biology, engineering, finance, environmental sciences.

The master of Science in industrial and applied mathematics (MSIAM) offers a large spectrum of courses, covering areas where the research in applied math in Grenoble is at the best level. Our graduates are trained to become experts and leaders in scientific and technological projects where mathematical modeling and computing issues are central, in industry or research. A large and distinguished graduate Faculty participate in the program, bringing their expertise in a wide range of areas of mathematics including applied analysis, numerical analysis and scientific computing,

probability theory and statistics, computational graphics, image analysis and processing, and applied geometry.

The academic program is a two-year master program (120 ECTS), fully taught in English. It combines three semesters of courses and laboratory work (90 ECTS) with a six-month individual research project (30 ECTS).

The first year is composed of a common core which provides theoretical and practical grounds in probability and statistics, PDE and modelling, images and geometry as well as computer sciences, optimisation and cryptology.

In the second year, the first semester is divided in 2 tracks :

- Modeling, Scientific Computing and Image analysis (MSCI)
- Data Science (DS)

The second semester is devoted to the master thesis project.

The course is labelled "Core AI" by MIAI.

Site web du master 2e année MSIAM

UE Computational biology	UE	36h	6 crédits
UE Quantum Information & Dynamics	UE	36h	6 crédits
UE Numerical Mechanics	UE		6 crédits
UE Advanced numerical methods for PDEs and optimal transport problems	UE	36h	6 crédits

Semestre 10

	Nature	CM	TD	TP	Crédits
UE Research projects	UE				30 crédits