International Master's program

# MoSIG
## Master of Science in Informatics at Grenoble

## All courses are taught in English

The Master of Science in Informatics at Grenoble offers to all students, regardless of country of origin, access to world-class graduate training in areas of informatics where the scientific research community in Grenoble is particularly strong.

MoSIG is a highly competitive, two-year European Standard (LMD) graduate program offering training in the areas of :

- Artificial Intelligence and the Web
- Parallel Distributed and Embedded Systems
- Mobile and Ubiquitous Systems
- Graphics, Vision and Robotics
- Advanced Information Systems & Software Engineering

**Contact**
mosig@ensimag.fr

**Cécile GARATTI**
cecile.garatti@ujf-grenoble.fr
+33(0)4 76 63 57 89
+33 (0) 4 76 82 72 65

**MoSIG website**
http://mosig.imag.fr

## ↘ Academic program

The academic program is a two year, European Standard, English lan¬guage, Masters Program (120 ECTS) that combines three semesters of course and laboratory work (90 ECTS) with a six month individual re¬search project (30 ECTS).

The first semester is composed of a common core curriculum of fundamental courses in Informatics. During the second semester, students have an oppor¬tunity to choose a selection of introductory courses to different sub-domains. During the third semester, students follow an advanced academic program in one of the five areas of specialization. The fourth semester is devoted to the masters research project, conducted under the direction of an academic super¬visor within one of the research teams associated with the program.

# First Semester

The first semester is a 12 week (September-January) program designed to ensure com¬petence in foundational areas of Informatics.

Students are required to follow 24 ECTS from the following courses:

Principles of Operating Systems
Mathematics for Computer Science
Software Engineering
Programming Languages and Compiler Design
Algorithms and Program Design
Image and Signal Processing

And 6 ECTS of non-elective courses
English and/or French language training (3 ECTS)
Programming Project (3 ECTS)

# Second Semester

The second semester is composed of a 12 week (February-May) academic program, fol¬lowed by participation in a 4-week internship in a research group (June).

The academic program combines advanced work on fundamental topics as well as introduction to more specia¬lized subjects.

Students should select 21 ECTS from the following courses:

Data base Foundations
Adaptive Computing Systems
Computer Networks Principles
Intelligent Systems: Reasoning and Recognition
3D Graphics
Introduction ro Robotics and Perception
Introduction to Cryptology and Coding
Introduction to Human Computer Interaction
Introduction to Distributed Systems
Introduction to Image Analysis

The laboratory internship is worth 6 ECTS credits. The program also includes a course of technical writing and speaking (English or French) course of 3 ECTS credits.

# Third Semester

The third semester (first semester of the second year, September-January) is composed of a 12 week academic program wich includes 30 ECTS credits from one of the specialized programs.

## Artificial Intelligence and the Web
Knowledge Representation and Reasoning Machine Learning
Semantic Web: from XML to OWL

### Courses offered on even numbered years (2014, 2016 etc)
Information Access and Retrieval
Technology for Humlan learning

### Courses offered on odd numbered years (2013, 2015 etc)
Multi Agents Systems
Speech and Language Engineering

## Parallel ,Distributed and Embedded Systems
Parallel Systems
Distributed Systems
Embedded Systems
Advanced Operating Systems
Wireless Networking and Sensor Networks

## Graphics, Vision and Robotics
Computer Graphics II
Computer Vision
Autonomous Robotics
Computation Geometry
Medical Imaging Simulation and Robotics
Machine Learning and Category Representation
Virtual Reality and 3D User Interfaces

## Ubiquitous and Interactive Systems
Advanced Human-Computer Interaction
Pervasive and ad-hoc Services
Mobile and Context-aware Interactive Systems
Machine Learning
Distributed Systems
Computer Vision

## Advanced Information Systems & Software

# Master Project

The final semester is devoted to an individual research project conducted at a lo¬cal public or corporate research laboratory or a company, under the supervision of the academic supervisor.
This may be a:
• professional project: requires an industry-grade design and implementa¬tion and is evaluated based on the professional quality of the design, specifi¬cation, documentation and performance evaluation or acceptance tests.
• scientific research project: requires an original solution to a problem situa¬ted within an existing scientific domain.
Continuation for doctoral studies requires demonstration of aptitude for scien¬tific research by completion of a scientific research project.

# Admissions

To be admitted to the program, candidates must have previous-ly completed their undergraduate studies and been awarded a Bache¬lor degree in either Science (BSc) or Engineering (BEng) that includes courses in computing and solid practice in program-ming.
Applications of candidates with bachelor of science in Computer Science or Computer Engineering will be preferably considered.

It is possible to enter either in the first year of the program (Master 1), or directly in the second year (Master 2), depending on the aca-demic background of the student.

Selection on
• the basis of prior academic and/or scientific achievement as do-cumented by academic transcripts,
• completed on-line application form
• a motivational essay
• letters of recommendation
• standardized test scores : students from countries where En-glish language is not the primary language are required to provide TOEFL test scores or equivalent.

Tuition and fees: Approximately 500 Euro /Year
Note that tution fees are highly subsidized by the French Governe-ment.

## ↘ Application Deadlines

Admissions Information at http://mosig.imag.fr
Mid February
Early admissions (recommended to allow time for visas
for non-European Students)
Mid March
Regular admissions deadline
Mid June
Late admissions (European students only)