



Institut Gaspard Monge (IGM)

FIELD Sciences, technologies, santé

Course suitable for

Initial Education

Continuing Education

Recognition of prior learning

Apprenticeship

• How to apply :

Applicants residing in France should use the eCandidat application.

Applicants residing abroad should use the 'Etudes En France' application.

• Course venue :

Cité Descartes (Champs-sur-Marne)

• Calendar :

Professional training internship for 3 months, as of May.  
In the dual study system: 3 days in the university, 2 days in the company.

• Contacts :

- Coordinator of the degree program : Arnaud Carayol (M1-M2)

- Academic coordinator : BOUILLLOT Olivier

- Academic secretary : ZERIZER Razika (M1)

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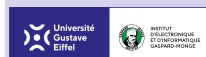
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For further details :

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Department

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MASTER (EN) M1

### ENTRY REQUIREMENTS

Bachelor of computer science, or 3 years' studies in computer science after a high school diploma.

### ACQUIRED SKILLS

The Master 1 provides solid skills in computer science: database systems, network programming, cryptography, professional scripting languages...

It provides transversal skills: English, communication, knowledge of the business world.

Elective courses introduce specializations, and allow for an informed choice between the tracks of the Master 2: advanced Java, image processing and synthesis, network architecture and engineering, problem complexity.

### YOUR FUTURE CAREER

This Master targets jobs in computer project management, software development (system design and application development), research and development...

Further studies generally involve one of the tracks of the 2nd year of Master's in our University.

Four of the tracks target specific application domains: digital image (medical imaging, video game, digital post-production...), software development (software editors, IT service companies, large companies developing their own software...), Internet of Things (smart connected systems, embedded applications, networks of connected objects), and artificial intelligence.

The fifth track primarily targets research careers, while preparing you for IT project management positions as well. PhD candidates focus on a research domain during projects (research and technological innovation project, tutored project) and during the M2 internship.

### BENEFITS OF THE PROGRAM

Students are requested to implement many software projects.

Most teachers are researchers in a reputed research laboratory, LIGM, which addresses both theoretical themes and practical applications.

You can enroll in this master's in the dual study system, which combines classroom study with workplace apprenticeship training.

In the final year of master's, most graduates obtain an indefinite contract just after the internship, in the same company.

# STUDY PROGRAM

## Semester 1

Advanced Java  
Methods and Modelling for Optimization  
Complexity of Problems  
Advanced Databases  
English  
Python and Script Languages  
Design Patterns  
Cryptography  
Choose one unit  
Project Management - Communication  
Web 2  
Data Compression  
Smart Systems and Applications

## Semester 2

Image Processing  
Network Application Programming  
Network Architecture and Operation  
Real Time Programming  
Linguistic Resources  
Image Synthesis  
Internship  
Choose one unit  
Combinatorics  
Business Knowledge  
PERL - Professional Script Languages  
In-depth Linguistics Learning