# Cybersecurity

## Master of Science in Cybersecurity

Université Grenoble Alpes-IM2AG / Grenoble INP-Ensimag

With the increasing externalization of corporations and organizations in a global multimedia and interconnected world, security of information systems and integration of data protection technologies are among the most critical issues. Yet, security of Information Systems is an active field of research.

Especially, within the Community Grenoble Alpes, the Grenoble technopole gathers experts in Informatics, Mathematics and Electronics from both Grenoble INP (Institut polytechnique de Grenoble) and UGA (Université Grenoble Alpes), in the field of Information Systems and Security at an international level.



Since its creation, more than 300 students have graduated the master.

**/ International Master's program, fully taught in English**

**/ English language track of the master's degree in Mathematics & Applications and Informatics**

**/ Joint program between Université Grenoble Alpes UFR IM²AG and Grenoble INP Ensimag**

## Objective

Educating experts in security and coding technologies
- Cryptology: Mathematical Protocols (RSA, AES, ECC, coding, FHE)
- Security: Software/Hardware (Network, System, Integration)
- Applications: Watermarking, Multimedia, Smartcard...

**Related research labs in Grenoble:**

Institut Fourier, LJK, LIG, VERIMAG, Gipsa-Lab, TIMA, and also Inria research centre.

Those labs federate their research in cryptology and security within the research team-action SCCyPhy (Security and Cryptology for CyberPhysical systems) of the competitive scientific cluster of excellence Labex PERSYVAL.

# Academic program

**Lectures** (from September to March)

**Common core**
- Software security, secure programming and computer forensic (3 ects)
- Security architectures : network, system, key managements, cybersecurity of industrial IT (6 ects)
- Cryptographic engineering, protocols and security models, data privacy, coding and applications (6 ects)
- Threat and risk analysis, IT security audit and norms (3 ects)
- Hardware and embedded systems security (6 ects)

**Elective courses**
- Advanced Cryptology (6 ects)
- Advanced Security (6 ects)
- Informatique légale et aspects juridiques (6 ects)

**Master thesis** (from April to September) 30ects

*All students will have to demonstrate a B2 level in english language in order to be awarded their degree.*

# Admissions:

Students are selected and admitted to the program based on their academic records, language skills, motivation and a judgement of their ability to successfully complete the program.
The CySec master program is a one-year (M2) specialized program.
To enter the program, students are selected after successful completion of:

/ MSc in Informatics or Mathematics at Grenoble (MoSIG M1, MSIAM M1, M1 Mathématiques, M1 Informatique) including the elective module "Introduction to Cryptology and Security"

/ Alternatively an equivalent M1 program.
(The minimum requirement is to have earned at least the equivalent of 240 ECTS credits)

**Admission webpage: http://relint.ensimag.fr/MainEn/Admission**

# Academic supervizors:

Jean-Guillaume Dumas (UGA)
Jean-Louis Roch (Ensimag)
Vanessa Vitse (UGA)

Registrar's office:
- Elena Leibowitch (Ensimag)
- Cécile Gros (UGA)

## Tuition and fees

Approximately 500 Euros / Year
Note that tuition fees are highly subsidized by the French Government.

## Application Deadlines

Non-European Students:
Mid-March
European students:
Mid-May

## Contact:
m2cybersec@ensimag.fr

## website :
http://cybersecurity.imag.fr