

Cybersecurity 2nd year

Master in Computer science



Duration
1 year



Component
Grenoble
INP, Institut
d'ingénierie et
de management
- UGA, UFR
IM2AG
(informatique,
mathématiques
et
mathématiques
appliquées)



Language(s) of
instruction
English

Presentation

The global economic impact of losses due to cybercrime amounts to hundreds of billions of euros per year (\$445 billion according to the McAfee/CSIS study of 2014) with a strong increase in attacks, especially for identity theft and digital data theft, as well as malicious attacks. Protection against these vulnerabilities includes :

- Robustness to cyber attacks of sensitive infrastructure (e.g. stuxnet)
- Robustness of security components against software vulnerabilities and data leaks (e.g. heartbleed)
- Protection of privacy and security of cloud infrastructures
- Robust design and evaluation of safety components
- Fault detection in protocols or software and hardware components

The topics covered in the training cover the complementary areas of Cybersecurity, including cryptology, forensics, and privacy, in particular for embedded systems and distributed architectures.

Train cybersecurity experts (including data privacy aspects) with a bac + 5 degree, able to evolve immediately in an industrial environment and who can also pursue a thesis.

International education : Internationally-oriented programmes

Organisation

Abroad internship : In France or abroad

Admission

Access conditions

The second year master's is accessible to candidates according to their transcripts (and/or interview):- having validated the first year of a compatible course- or by validating studies or acquired experience according to the conditions determined by the university or the training.

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed a formation under the regime formation continues one of the 2 preceding years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a validation of personal and professional achievements (VAPP).

Candidature / Application

Do you want to apply and register? Note that the procedure differs depending on the degree considered, the degree obtained, or the place of residence for foreign students.

[🔗](#) Find out which procedure applies to me and apply

Fees

Tuition fees 2019-2020 : 243 €

And after

Further studies

Depending on the nature of their practicum, students may wish to pursue research in a doctoral thesis.

Targeted trades

- Cybersecurity engineer
- Information systems security engineer
- Engineer specialized in auditing security of information systems
- Technical sales engineer in computer security

- R & D engineer specialized in cybersecurity

Useful info

Contacts

Program director

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Program director

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Program administration

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Course location(s) - City

📍 Grenoble

Campus

🏠 Grenoble - University campus

Know more

Cybersecurity Site

[🔗 http://cybersecurity.imag.fr/](http://cybersecurity.imag.fr/)

Program

Master 2nd year

Semester 9

	Nature	CM	TD	TP	Crédits
UE Software security, secure programming and computer forensics	Teaching Unit (UE)	19,5h		19,5h	3 credits
UE Security architecture : network, system, key management, cybersecurity of industrial IT	Teaching Unit (UE)	42h	15h	21h	6 credits
UE Cryptographic engineering, protocols and security models, data privacy, coding and applications	Teaching Unit (UE)	36h	21h	21h	6 credits
UE Threat and risk analysis, IT security audit and norms	Teaching Unit (UE)	19,5h		19,5h	3 credits
UE Physical Security : Embedded, Smart Card, Quantum & Biometrics	Teaching Unit (UE)	48h	15h	15h	6 credits
UE Advanced cryptology/Advanced Security	Teaching Unit (UE)	15h		24h	6 credits
UE Advanced security	Teaching Unit (UE)	27h	12h		6 credits

Semester 10

	Nature	CM	TD	TP	Crédits
UE Research practicum (in company or laboratory)	Teaching Unit (UE)				30 credits