

Master in cybersecurity

Focus Erasmus Mundus joint master in Cybersecurity (CYBERUS)

The programme is organised around **five specific and complementary key disciplines**: (1) Cryptography, (2) Systems and Networks, (3) Legal, ethical, and human aspects, (3) Security management, and (5) Secure software engineering.

The **first year** of the Master is dedicated to a **common set of courses**. Several seminars and elective courses ensure the **curriculum is dynamic and remains up to date**. For instance, 10 credits can be chosen as **elective courses**, selected from courses already taught in the participating academic institutions.

In the second year, half of the programme's credits are for courses in one of **two focuses**: 'system design and analysis', which is dedicated to the design and thorough analysis of secure systems, and 'corporate strategies', which is dedicated to more concrete applications. Both focuses are built on the **students' personal involvement and self-learning, through several projects**. A significant part of the skills involved is acquired during the **mandatory long-term work placement in a professional environment** (typically 12 weeks).

Students take part in **projects and challenges** that further add to the expertise and practical know-how required in the IT industry. They apply the concepts covered in lectures, and learn new material by solving proposed challenges.

At the end of the programme, students prepare a **Master's dissertation** under the supervision of a professor who is an active researcher in the field.

Bloc 1 | M-SECUM | MA-SECU

The first year is to be followed at Université de Bretagne Sud (UBS).

HULB-0000

[Cours externe à l'Université](#)

🕒 60 credits 📅 academic year

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Bloc 2 | M-SECUM | MA-SECU

Cours obligatoires

ELEC-H423	Mobile and wireless networks Jean-Michel DRICOT (Coordinator) ⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 first term 🗨 English
ELEC-H550	Embedded System Security Jan Tobias Mühlberg (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 English
INFO-F537	Cryptanalysis Gilles VAN ASSCHE (Coordinator) ⌚ 5 credits [lecture: 24h, project: 48h] 📅 first term 🗨 English
INFO-Y119	Forensics and reverse engineering Thibault Debatty (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 24h] 📅 first term 🗨 English
LANG-Y9021	Français langue étrangère - Niveau A2 (F9) Sabina GOLA (Coordinator) and Eric Galiano ⌚ 5 credits [lecture: 15h] 📅 first term 🗨 French
MEMO-F543	Master thesis and internship in cybersecurity Olivier MARKOWITCH (Coordinator) and Jean-Michel DRICOT ⌚ 30 credits [work placement: 120h, mfe/tfe: 240h] 📅 second term 🗨 English

Cours à options

Ou tout autre cours de MASTER avec l'accord du titulaire et du président de jury

One course chosen from the following

GEST-S482 (optional)	The digital firm Nicolas VAN ZEEBROECK (Coordinator) and Vincent LION ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 English
GEST-S706 (optional)	Entrepreneurship Olivier WITMEUR (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 English
INFO-F409 (optional)	Learning dynamics Tom LENAERTS (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 60h] 📅 first term 🗨 English
INFO-H415 (optional)	Advanced databases Esteban ZIMANYI (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 first term 🗨 English
INFO-H420 (optional)	Management of Data Science and Business Workflows Dimitrios SACHARIDIS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 36h] 📅 first term 🗨 English
INFO-Y082 (optional)	Programming Distributed and Replicated Systems ⌚ 6 credits [lecture: 26h, tutorial classes: 26h, project: 30h] 📅 first term 🗨 English
INFO-Y115 (optional)	Secure software design and web security Romain Absil (Coordinator) ⌚ 5 credits [lecture: 30h, practical work: 20h] 📅 first term 🗨 English
POLI-D323 (optional)	Introduction to EU Politics Camille Nessel (Coordinator) and Nathalie BRACK ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 English

One course chosen from the following

TEMP-0000
(optional)

Cours extérieurs au programme

🕒 5 credits 📅 academic year 🗨 French

TEMP-0000
(optional)

Cours extérieurs au programme

🕒 10 credits 📅 academic year 🗨 French

TEMP-0000
(optional)

Cours extérieurs au programme

🕒 15 credits 📅 academic year 🗨 French