

**Master of Applied
Cybersecurity**



**Co-funded by
the European Union**

CyberMACS

**Master's Programme in
Applied Cybersecurity
Erasmus Mundus Joint
Master Degree**

- **2 Years**
- **2 Universities**
- **2 Degrees**
- **Winter & Summer Schools**
- **Internship**
- **International Experience**



WHY CyberMACS?



The dramatic rise in cyber-attacks has made cybersecurity a major concern worldwide. It is estimated that cybercrime cost the world economy about \$1 trillion in 2020. In February 2021, a cyber-attack targeted a water treatment facility in Florida to change chemical levels in water supply. In May 2021, a ransomware attack targeted the largest fuel pipeline in the USA. Cyber-attacks come in all shapes, including worldwide data breaches affecting companies and people. For instance, a social media app cyber-attack resulted with 1.3 million users' information leakage. Changing landscape of cybersecurity threats requires an urgent need for comprehensive, dynamic, and applied cybersecurity education to qualify cybersecurity professionals for the prevention, mitigation, and management of threats.

CyberMACS proposes a full-time 2-year joint European MSc programme (120 ECTS) focusing on “Applied Cybersecurity” to provide a solid background within cybersecurity with focus on educating future cybersecurity experts to detect, prevent, mitigate, and manage cyber-attacks. Students will be trained on the basics of cybersecurity in the first year, then opportunities will be provided for specialization in the second year with compulsory following the winter/summer schools as well as compulsory internship. Besides specialization tracks, students will receive training in soft skills such as entrepreneurship and complete their degrees with master theses.

To guarantee CyberMACS's vision of high-quality education, three European higher educational institutions combine their complementary competencies: Kadir Has University (KHAS), SRH Berlin University of Applied Sciences (SRH), and Ss. Cyril and Methodius University-Skopje, North Macedonia (UKIM). CyberMACS is a strong institutional cooperation for European excellence in higher education with a high-level integrated & transnational study programme on applied cybersecurity targeting the best students worldwide.

Consortium: Three Universities From Three Countries

CyberMACS universities are located in three cities and countries:

1. *Skopje, North Macedonia (Ss. Cyril and Methodius University, UKIM)*
2. *Berlin, Germany (SRH Berlin University of Applied Sciences)*
3. *Istanbul, Turkey (Kadir Has University)*

Skopje, North Macedonia (Ss. Cyril and Methodius University, UKIM)

Ss. Cyril and Methodius University, UKIM, is the oldest university in the country, located in the center of Skopje, the capital of the Republic of North Macedonia. UKIM was established in 1949, consisting of 23 faculties and five research institutes. Besides being the capital of the Republic of North Macedonia, Skopje is also a leading city in terms of culture, economy, and education. The city has many historical places, one of the common points of Western and Eastern cultures. Due to its geographical location, Skopje is also rich in natural beauty.

Berlin, Germany (SRH Berlin University of Applied Sciences)

SRH Berlin is one of the oldest and largest private universities in Germany, located in the city's center. SRH Berlin has six schools spread amongst three different cities: Berlin, Dresden, and Hamburg. Among European capitals, Berlin is still one of the most affordable cities for students and it is a melting pot of different cultures. The city also offers close contact with international firms and start-ups, especially in technology enterprises.

Istanbul, Turkey (Kadir Has University)

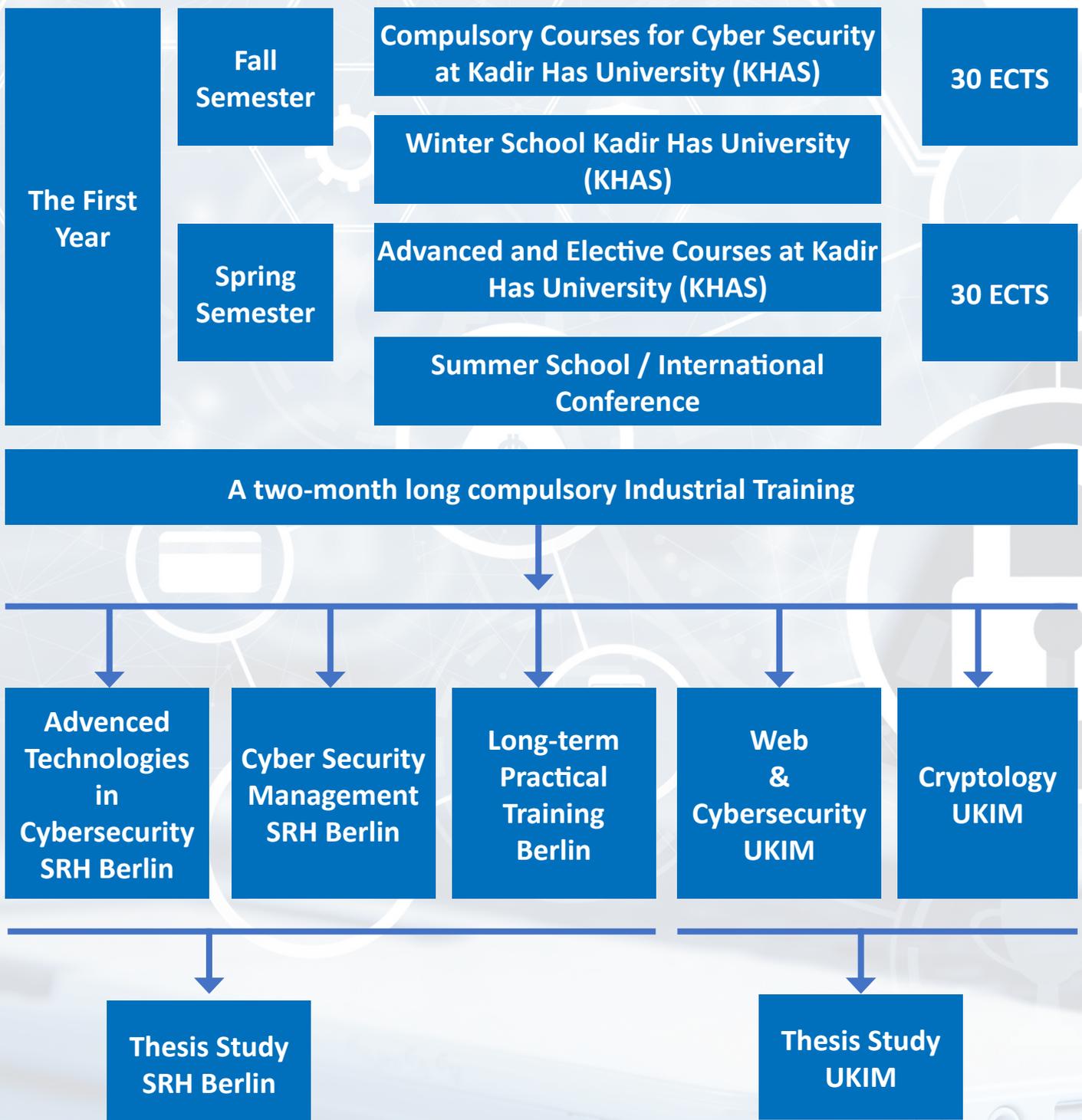
Kadir Has University (KHAS) is located in the European side and historical center of Istanbul, established in 1997. KHAS campus is in the Fatih, Cibali neighborhood on the coast of the Golden Horn that can be easily reached from every point of Istanbul.

KHAS is the center of education, culture, and art, with its five faculties (Art and Design, Communication, Economics, Administrative and Social Sciences, Engineering and Natural Sciences, and Law), School of Graduate Studies, research centers, and Rezan Has Museum. KHAS is also very close to all amenities of Istanbul, like festivals, exhibitions, and academic and business events. As one of the largest metropolises in the world, Istanbul is an excellent center of attraction.



Programme Structure & Curriculum

CyberMACS is a full time 2-year European-funded Master of Science (MSc) Programme (120 ECTS) focusing on “Applied Cybersecurity”.



• Students will be trained on the basics of cybersecurity in their first year in İstanbul, Turkey (Kadir HAS University, KHAS), to complete 60 ECTS.

- Between the Fall and Spring semesters, there will be a compulsory Winter School lasting a week.
- Right after the Spring semester, there will be a Summer School for the first intake, and from the 2nd intake onward, there will be an International Conference for all students to take part in.
- Lastly, in the first year, the students are to complete a compulsory 2-month-long practical training in the institutions approved by the relevant committees.
- Students who enroll in KHAS need to complete at least 30 ECTS from one of the full partner institutes before going for a year-long study at another institute.

• For the specialization in the second year, students go either to Berlin, Germany (SRH Berlin University of Applied Sciences) or Skopje, North Macedonia (Ss. Cyril and Methodius University, UKIM). The specialization areas are below:

- Web & Cybersecurity (UKIM) [30 ECTS]
- Cryptology (UKIM) [30 ECTS]
- Advanced Technologies in Cybersecurity (SRH Berlin) [30 ECTS]
- Cyber Security Management (SRH Berlin) [30 ECTS]
- Long-term Practical Training on an approved institution (Berlin, 30 ECTS)
- Master thesis [30 ECTS].
- Degree Options (Two-dual degrees, one by KHAS-SRH and one by KHAS-UKIM).



CyberMACS Outcomes

CyberMACS aims to educate professional engineers who can take on the most demanding R&D tasks and drive the development of future products and services. More specifically, the learning outcomes are the following:



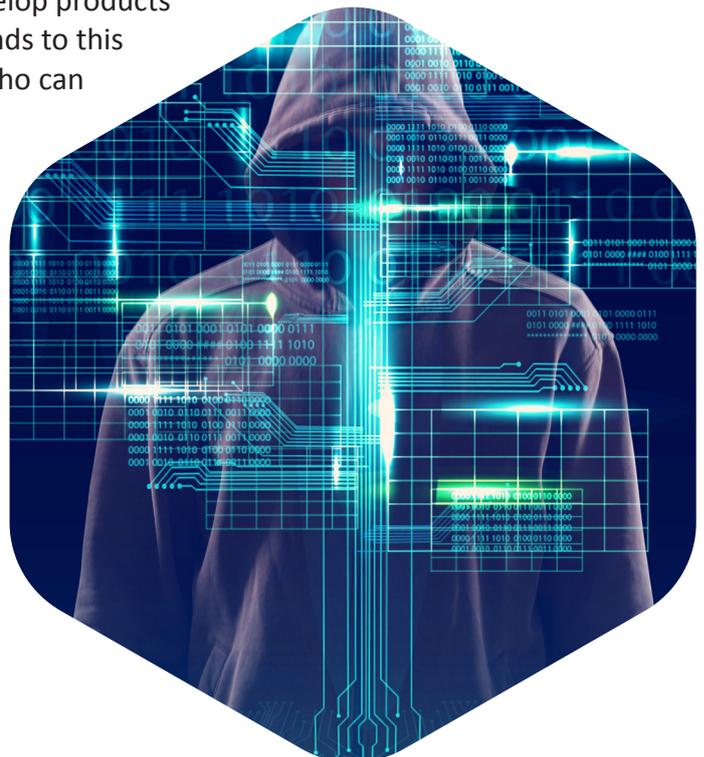
- Students have a theoretical understanding of information security and practical skills for designing and critically analyzing secure computing systems.
- Students understand the architectural principles of distributed services and applications. They can design, analyze, and implement cloud-based and distributed computing systems.
- Students have in-depth knowledge of their chosen specialization area and can apply it to solving technical and scientific problems. They can contribute to the knowledge and practices in their field.
- Students have strong software development skills and other technical and professional skills that enable them to take responsible roles in an industrial research and development environment, and they are qualified to continue doctoral studies in academia.

Career Goals

There is a huge shortage of cybersecurity professionals both in Europe and worldwide. Furthermore, the shortage is growing every year. As more and more companies and institutions are looking for professionals who are also able to develop products and services against cyber threats, CyberMACS responds to this demand for her graduating engineers and scientists who can be innovators, entrepreneurs, and possess intercultural communication and social skills.

You can work as: cybersecurity expert, cybersecurity analyst, data protector, cybersecurity vulnerability assessor, security architect or product integrator, system penetration tester, incidence response expert, cryptographer, malware analyst, application security expert, and so on. A few examples of industries are:

- Cyber security industry including international consulting companies for security,
- International industrial R&D jobs,
- Security product and service developing companies,
- Engineering and consulting companies, etc.



Admission And Requirements

CyberMACS invites applications from top students of all nationalities. The admission process is competitive, and only the best applicants are selected. The application period will take place from 5 December 2022-3 February 2023.

1st application round for autumn 2023 student intake

Selection schedule	
5 December 2022 at 9 am (GMT +2)	Application period begins, online application form opens.
3 February 2023 at 3 pm (GMT +2)	Application deadline, online application form closes.
February-March 2023	Academic evaluation of eligible CyberMACS applications.
March-April 2023	Selection results are published.
17 August 2023	Deadline for the certified copies of the degree certificate and transcript of records.
September 2023	CyberMACS first-year studies at Kadir Has University begin with the Orientation Week.

To be admitted to CyberMACS, you will first need to fulfill our general eligibility requirements. If your application is eligible, it proceeds to the academic evaluation. The final evaluation of the eligible applications and the allocation of scholarships is made based on CyberMACS' student selection criteria.

General eligibility requirements

To be considered eligible for CyberMACS, you will need to fulfill these general eligibility requirements:

1. Your previous higher education institution needs to be officially recognized.
2. Your previous degree* needs to meet our requirements.
3. If an English language test result is required from you, your test scores will need to fulfil our minimum requirements.
4. You will need to submit your online application and all compulsory application documents as instructed before the application deadline.

* Applicants in their final year of studies are eligible to apply provided that they will graduate by 17 August 2023.

Selection Process

1. Relevance of previous studies & experience
2. Excellent academic performance
3. Recognition and quality of institution
4. Motivation and commitment to CyberMACS studies
5. Other relevant achievements
6. English language proficiency

Scholarships and Fees

Best learning conditions waiting for you to become CyberMACS student!

As an Erasmus Mundus master, CyberMACS offers scholarships of €1,400/month for 2 years to many students and there is no registration and/or tuition fee to scholarship students.

For the 2022 intake, we plan to select a maximum of 33 students. We intend to offer:

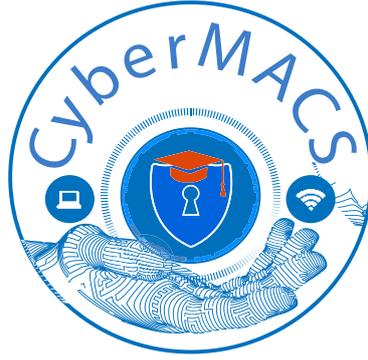
- Up to 15 Erasmus Mundus scholarships and registration and tuition fee waivers whatever your country of origin,
- An additional 6 to 7 Erasmus Mundus scholarships and registration and tuition fee waivers if you come from specific countries.*
- No scholarship but 8 to 12 registrations and reduced tuition fees whatever your country of origin. These students are considered the selected self-funded students.

* For more detailed information, visit cybermacs.eu

Scholarships are based on merit.

For other selected self-funded students, the annual registration and tuition fee is €5,175 for the whole programme. It covers the same services as those offered to the fee waiver and scholarship beneficiaries, notably International Health and Accident Insurance and costs for all mandatory activities. It must be paid annually before the student's arrival at the host institution.

All scholarship and self-funded students are financially responsible for their transport, accommodation, and subsistence costs.



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