



Lycée Guillaume Kroll



FUTUREHUB

bts >> *cybersecurity*



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BTS CYBERSECURITY
LYCEE GUILLAUME KROLL

Course content

Cybersecurity is not solely about *technology*. It is also about *governance* and *communication*. Hence, the training program focuses on 5 fields:

Security concepts

- Fundamentals
- Technical aspects
- Penetration testing
- Digital forensics

Governance & security mgmt

- Data protection
- Risk management
- Incident response
- Frameworks, standards

IT operations

- Windows
- Linux
- Scripting
- Coding

Network technologies

- Fundamentals of networking
- Networking protocols

Soft skills, project management, languages

Learning outcomes

Advanced technical and practice-based training, preparing students to implement and manage operational cybersecurity in a professional context according to the latest developments.

BTS cybersecurity graduates will be able to:

- easily blend into operational security teams,
- implement and manage security at the system and network level,
- assist the information security officer as a technical advisor,
- possess the necessary knowledge to manage and analyse incidents,
- adapt to new security challenges.

| S1 | S2 | S3 | S4 |
|----|----|----|----|
|----|----|----|----|

Security concepts, governance and security management

| | | | | | |
|---|---|---|---|---|--|
| Fundamentals of cybersecurity | X | | | | Introduction: build basic knowledge |
| Applied cybersecurity | | X | | | Apply concepts |
| Penetration testing | | | X | | Attack |
| Incident response and digital forensics | | | X | | React |
| Governance, Risk and Defensive Security | | | X | | Defend |
| Security CTF's | | | | X | Analyse and combine |
| Cybersecurity project | | | | X | Apply knowledge; implement a project |
| Legal aspects and cybercrime | | | | X | do's and don'ts in the context of cybersecurity; ethics and deontology |

IT Operations

| | | | | | |
|---------------------------------|---|---|---|--|---|
| Operating systems Windows | X | | | | Learn how to manage a windows server |
| Operating systems Linux | | X | | | Learn how to manage a linux server |
| Scripting | X | X | | | Automate tasks |
| Cloud computing concepts | | X | | | Acquire basic knowledge |
| Python coding for cybersecurity | | X | X | | Use coding to support penetration testing |

Network technologies

| | | | | | |
|--|---|---|---|--|--|
| Introduction to networks | X | | | | Acquire basic knowledge in IT networks |
| Switching, routing and wireless essentials | | X | | | deep dive into switching, routing, and wireless |
| Enterprise networking | | | X | | architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. |

Internship

| | | | | | |
|---------------------|--|--|--|---|-----------------------------|
| Internship 12 weeks | | | | X | apply acquired competencies |
|---------------------|--|--|--|---|-----------------------------|

Soft skills and project management

| | | | | | |
|----------------------------------|---|---|---|--|--|
| Project management | X | X | X | | Learn how to handle small and large projects, alone and in groups |
| Technical business communication | X | X | | | Build soft skills, acquire basic communication techniques, document and present findings |
| Technical English | X | | | | Communicate (spoken and written) |
| Technical French | | X | | | Communicate (spoken and written) |
| Entrepreneurship | | | X | | Basics of enterprise ecosystems and entrepreneurship |

Qualification

Advanced Technician's Diploma
(Brevet de technicien supérieur en Cybersécurité)

Duration

2 years – full-time – 120 ECTS

Occupation profile

- CSIRT / CERT / SOC operator
 - security administrator
 - incident response analyst
 - log analyst
- SECOPS / security engineering
 - network security operator
 - security administrator
- Operational security officer
 - CISO assistant
 - Security operations desk
- Junior pentester

Entry requirements

- Possess a secondary school-leaving certificate or equivalent
- Pass the admission test and classify among the first 14 candidates
- Acknowledge and sign the ethics and security disclaimer
- Have a good understanding of English.

Work placement

12-week internship within a company
at the end of semester 4

Courseload

- 21 teaching hours per week
- many autonomous working hours, partly in the presence of a teacher.

Reduced class size

- 14 students per class
- Personal contact with teachers
- Mentoring

Purpose

- professional life
- further higher education studies at undergraduate level (BAC+3)

<https://www.lgk.lu/bts/cs>

The Luxembourg Government has developed a cybersecurity strategy responding to the challenges of the digital transformation of today's society.

"Cybersecurity and data protection are two themes of crucial importance for the economy of tomorrow - the data economy" (FEDIL)

To meet the growing demand in IT and computing-related sectors, Luxembourg requires highly skilled and qualified professionals in the field of information security.

The Lycée Guillaume Kroll aims to provide these professionals by offering a contemporary, state-of-the-art training course in cybersecurity.



**CYBERSECURITY
LUXEMBOURG**



Advantages and USP



- ✓ preparation for numerous internationally recognized certifications
- ✓ numerous external instructors from real-life businesses
- ✓ networking with local professionals
- ✓ contact to members of the Luxembourg Cybersecurity Ecosystem
- ✓ small classes with up to 14 students
- ✓ close guidance and individual support
- ✓ access to a dedicated classroom space outside of teaching hours