



Lycée Guillaume Kroll



# BTS Communication technologies



Brevet de technicien supérieur – BTS

## BTS Communication technologies

*Digital Luxembourg*, an initiative launched by the Luxembourg government in 2014, aims to strengthen the country's position in the field of ICT, including telecommunications. The telecommunications sector is constantly evolving thanks to the progression of ultra-high-speed broadband, the extension of optical fibre, the deployment of 5G and Internet-of-things (IoT) applications. To meet the challenges of the digital transformation of our society today, Luxembourg needs highly qualified and competent experts in the field of telecommunications.

The BTS Communication technologies is a 2-year post-baccalaureate course which will train you in the field of communication technologies. The course encompasses a lot of practical work and projects closely linked to companies in sectors pertaining to IT networks, Wi-Fi, 5G, satellite communication or IoT.

## ... and why at the Lycée Guillaume Kroll?

In 2016, the Lycée Guillaume Kroll was awarded the «Future Hub» label in recognition of its efforts in the field of high technology at all levels of education. Students can use equipment that is at the cutting edge of technology. As the LGK offers a wide range of courses, we have a large number of highly specialised teachers and external experts who collaborate on a regular basis and supervise the various projects of the students. The additional offer of three post-secondary courses, one in Communication technologies, one in Cloud Computing and one in Cybersecurity, ensures that the teachers are always at the cutting edge of their field.

Our close collaboration with companies in the ICT sector in Luxembourg and your internship will allow you to enter the Luxembourg job market with a qualification and training where the need for ICT specialists is particularly high and there are many job opportunities.

## The Communication technologies course

The BTS in Communication technologies focuses on information and communication technologies as well as on fixed and mobile IT networks. The course will enable you to master IP addressing and routing, to implement, configure or monitor a network, to install and configure operating systems and to write simple scripts. You will also learn how to write code and configure applications in the field of IoT (using RasPi, Arduino...), set up digital TV reception systems (Satellite or IPTV) and monitor them.

You will have +/- 30 hours of classes per week, your theoretical classes will be complemented by practical work or group projects.

Numerous external experts will organise workshops throughout your training and they will establish a significant link with companies for the two internships that you will have to do in the 1<sup>st</sup> and 2<sup>nd</sup> year.

## Admission requirements

- a secondary school diploma (classical, general or technical) or an equivalent foreign diploma,
- a good understanding of English and French.

Candidates that meet these requirements must pass an admission test, take part in an interview and be ranked in the top 12.

To pass the test, you will have to demonstrate basic knowledge of mathematics and physics and some basic ideas of Internet technologies. The interview will be held in English and the focus will be on your personal skills.

## Goals

The holders of a BTS in Communication Technologies will be able to design, implement and monitor IT and broadcast networks and ensure their security. You will have no difficulty finding a job as the need for telecommunications and IT experts is particularly great and there are many job offers.

The BTS diploma will also allow you to continue your studies by working towards a Bachelor's degree. If your results are good, you may even enter such a degree programme in its 3<sup>rd</sup> year.

## How are the lessons organised?

	Year 1		Year 2	
	S1	S2	S3	S4
<i>BTS - Compact timetable</i>				
<b>Course</b>				
IT Networks	5h	5h	5h	5h
Digital Electronics / Microcomputer / IoT	3h	4h	7h	
Operating systems / Cloud and Programming	3h	4h	3h	
IT security			3h	3h
Multimedia Technologies and Broadcasting	4h			3h
Wireless Technologies and optical transmission		6h	3h	
Signal, filtering and amplifying	2h	2h	2h	
Applied Mathematics	4h	3h		
Applied Physics for Telecom - Basics	4h	2h		
Satellite Communication with courses at SES Betzdorf				5h
Business Planning and Project Management		2h	3h	4h
French Communication	2h	2h		
English Communication	2h	2h	2h	2h
Applied ICT at POST Technologies *				6h
Internship 1 / 2 and Final project		6 weeks		8 weeks
	<b>29h</b>	<b>32h</b>	<b>28h</b>	<b>28h</b>

\* External courses done by companies Post and SES

14 weeks courses per semester / 12 weeks for 4<sup>th</sup> semester after each semester exam period

after BTS possible for 3<sup>rd</sup> year Bachelor at Univ de Lorraine

## The strengths in summary

- Individualised and collaborative teaching, with a maximum of 12 students per year of study
- Courses taught by highly qualified teachers and external experts from leading companies
- Use of state-of-the-art equipment
- Relationships with the business world throughout the course

## About the Lycée Guillaume Kroll

The origins of the Lycée Guillaume Kroll date back to 1924. The school has constantly evolved to become one of the three "Future Hubs" of the country. For the lower grades, it offers classical and general secondary education classes. At the higher levels, it specialises in

high-tech fields: the "IT and communication" section in secondary classical education, the "engineering", "natural sciences" and "paramedical" sections of the technical stream of secondary general education, and the computer science, "smart technologies" and mechatronics courses in vocational education. At the level of post-secondary education (BTS), the LGK offers a very high level of specialisation in the three specialities "Cloud computing", "Communication technologies" and "Cybersecurity". Located along the A4 motorway, the Lycée Guillaume Kroll is well connected to the public transport system, notably the TICE and RGTR networks. Many public transport lines from the south of the country and from the city centre stop near the school (stops: Cité verte / rue Henri Koch / Lycée Guillaume Kroll).

## Motiviert an engagiert an d'Zukunft

Motivés et engagés vers l'avenir

