

## STEM CAREERS AND SKILLS OF THE FUTURE

The STEM Alliance proposes a series of online events (webinars and chat discussions) and career sheets that aim to promote Science, Technology, Engineering and Mathematics (STEM) careers with role models. Representatives from companies – partners of the STEM Alliance – are invited to give online presentations to inform teachers about possible careers in their companies. Based on content picked up from the webinar and drawing on the experience of STEM experts, the STEM Alliance will then create a career sheet for the specific career profile presented in the online event. The career sheet will serve as an awareness-raising tool for teachers and career guidance officers, as well as providing valuable information for the companies' own awareness-raising campaigns.

The following document contains suggestions of the questions that can be highlighted during webinars and chats. Moreover, the answers provided by professionals are transformed into the career sheets – short articles that will be published on the STEM Alliance website and will be accessible by teachers.

Please do keep in mind that the information in this career sheet relates closely to the context of the professional whose experience the career profile is based on. STEM professions, studies and challenges vary between countries and industry sectors.

### Cybersecurity Specialist

#### What is this profile about?

*The skillset and competences of a Cybersecurity Specialist are highly sought-after in companies and organisations working in all fields today. As establishments around the world become digitalised and rely in their day-to-day functions and actions on devices connected to the internet, they are increasingly vulnerable to cyber-attacks. Cybersecurity Specialists are key to preventing attacks and defending information systems and networks. Tasks of this profile include monitoring for security breaches, proposing and implementing a security strategy, building firewalls, following security protocol, learning continuously about new software, and dealing with threats and attacks. Monitoring systems on a regular basis is a large part of this job, which includes testing, risk assessment and controlling the IT structure of the organisation. At times, the Cybersecurity Specialist is also responsible for training employees in security and in the best practices in defence against cyberattacks. Cybersecurity Specialists often work in teams, but there are also opportunities for working as independent consultants.*

#### What does a typical working day look like?

*Daily tasks might come often among the usual 9 to 5 working hours. These tasks include monitoring security reports and analysis of organisational systems, which are regular tasks that take up most of this job profile's time. However, dealing with cyber-attacks, for an immediate*

*reaction to security breaches and minimising their impact might also include working outside of the ordinary hours for.*

### **How much and what does one need to study?**

*There are different ways to become qualified for this job. You can do a university study in computer science, or in cybersecurity studies, which is now offered by some universities and colleges. Another way to qualify is to do a placement at a company. Many companies offer apprenticeships for high school graduates as a way to study and work at the same time. Online trainings are also a good way to start, for instance, this training course by Cisco Networking Academy: <https://www.netacad.com/courses/security/introduction-cybersecurity>*

### **What are the key skills needed?**

*You will eventually need to develop strong technical skills in ICT, with a good knowledge of hardware and software. To understand the strengths and weaknesses of the cybersecurity of your organisation, you need to have a great attention to detail and excellent analytical skills. You need to understand how cyber criminals work, and anticipate your organisations' needs based on current trends in criminal activities. To master this profession, you will need to become Sherlock Holmes in a digital crime world. As the field of cybersecurity evolves rapidly, you need to be adaptable and interested in learning new skills. You will also need to have good communication skills to inform the rest of the organisation about security requirements. Team working skills will also come in handy, especially in large organisations.*

### **What are the possible places of employment?**

*Cybersecurity Specialists are needed in IT companies, financial institutions, governmental organisations and companies working in all fields. There are great opportunities for career building, especially in large organisations. Job security and career prospects are expected to be excellent for cybersecurity professionals in the coming years and decades. This is truly a profession of the future!*

### **This is a job for you, if...**

*You like intellectual challenges and enjoy problem-solving exercises. You are interested in a constantly evolving, exciting field.*

### **A Cybersecurity Specialist should be:**

- *A strategic thinker*
- *Driven by innovation*
- *A committed person*

### What are the challenges of this job?

*One of the biggest challenges of Cybersecurity Specialists is that their systems are constantly under threat. There is a constant pressure to keep up with the news and never let the guards of the networks down. While this pressure is an exciting challenge, it needs a resilient and enduring mind.*

### Advice to teachers and parents

*The field of cybersecurity is a hugely exciting field that is evolving into the single most important point of ensuring the safety of citizens and companies. Your students can become part of this thrilling evolution. Another reason to encourage your students to take on this career profile is that it is also expected to provide job security and great career prospects. Teachers, students and parents nowadays need to be aware of the issue of protecting their data and how to avoid and manage information breaches. Awareness-raising campaigns like [Safer Internet Day](#) can trigger an interest to choose this direction as a future professional path.*

### More information:

This information is based on content picked up from the chat [STEM careers and skills of the future – Carrers in Cybersecurity](#) of 30 October 2018 and drawing on the experience of the STEM expert Semyon Ovsyannikov, Cisco Networking Academy Technical Manager, who spoke during this online event.

### Learn more (links to the external resources/webpages related to the career profile):

<https://www.cisco.com/c/en/us/products/security/what-is-a-cybersecurity-specialist.html>

The article is published by Cisco.com.

<https://targetjobs.co.uk/careers-advice/job-descriptions/454165-cyber-security-specialist-job-description>

The article is published by Targetjobs.co.uk.

<http://www.expecteverything.eu/data-security-specialist/>

The article is published by Expecteverything.eu.

<https://www.careersinaudit.com/article/a-day-in-the-life-of-a-cyber-security-professional/>

The article is published by CareersinAudit.com.

<https://cybersecuritymonth.eu/>

The article is published by Cybersecuritymonth.eu.

[https://newsroom.cisco.com/video-content?type=webcontent&articleId=1913751&CAMPAIGN=Corporate%20Communications&Country\\_Site=GL&POSITION=Social+Media&REFERRING\\_SITE=Facebook&CREATIVE=Cisco++](https://newsroom.cisco.com/video-content?type=webcontent&articleId=1913751&CAMPAIGN=Corporate%20Communications&Country_Site=GL&POSITION=Social+Media&REFERRING_SITE=Facebook&CREATIVE=Cisco++)

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