



CAREERS



National Cyber
Security Centre
a part of GCHQ



THIS IS A CYBERFIRST WORLD

LET'S OPEN IT UP

University bursary and
degree apprenticeship



THIS IS A CYBERFIRST WORLD

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Welcome to your guide
to our programmes

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“WITH ALL THE OPPORTUNITIES AT THE NCSC AND GCHQ, THERE’S LOADS OF WORK YOU CAN DO, AND WITH A WHOLE LOT OF INDUSTRY MEMBERS AS WELL.”

WHO RUNS CYBERFIRST?

CyberFirst was set up by the National Cyber Security Centre (NCSC), part of GCHQ, with one goal in mind: to open up the world of cyber security. We want to find diverse young minds from up and down the UK – not just coders but entrepreneurs, public speakers, analysts and more – who’ll become the next generation of cyber security specialists.

You might have heard of the NCSC and GCHQ before, but if you haven’t, here’s a run down:

GCHQ is the UK’s world-leading intelligence and cyber security agency with a mission to help keep the UK safe. The agency uses cutting-edge technology and technical ingenuity to identify, analyse, and disrupt threats in an increasingly digital world. They work closely with MI5, MI6, law enforcement, the military, and international partners to counter real-world and online threats from both large groups and individuals.

As part of GCHQ, the NCSC is the UK’s lead technical authority on cyber security, helping to make the UK the safest place to live and do business online. Set up in October 2016, the NCSC offers unrivalled real-time threat analysis, defence against national cyber attacks, and tailored advice to victims of cyber intrusions. The NCSC has access to some of the most sophisticated capabilities available to government, and its ground-breaking approach to cyber security is improving the UK’s resilience to cyber threats.

WHO CAN JOIN OUR PROGRAMMES?

Our bursary and degree apprenticeship programmes are designed for a new generation of future cyber security professionals. And even if you don't know how to code yet, these programmes are open to you.

After all, the key thing we look for in our applicants isn't your genius programming skills – it's curiosity. You care about your technology, whether it's your phone or your console, and you ask questions about how it works. You're ready to learn all there is to know about computing – even if you don't know much yet. In fact, on our degree apprenticeship, we'll train you how to code on the job.

As long as you've got the right attitude and the aptitude to learn about technology, you'll find a real sense of community with us. We're looking

for young people of all genders, all cultures, all experiences – all keen to explore and defend our digital world.

The main thing we all have in common is our desire to make an impact – and with CyberFirst, and a career in cyber security, that's guaranteed. Whether you choose to fund your degree through our bursary, or earn while you learn on the degree apprenticeship – launch a career that helps defend the modern world you love.



**“I KNOW LOTS OF PEOPLE
ON THE SCHEME WHO
STUDIED SUBJECTS LIKE
HISTORY, POLITICS, AND
PSYCHOLOGY, LIKE ME,
AND IT'S NOT HELD THEM
BACK AT ALL.”**



“NOW MORE THAN EVER, CYBER SECURITY IS CRUCIAL. WE’VE GONE ONLINE FOR EVERYTHING AND IT MEANS WE’RE LEAVING MORE DATA OUT FOR PEOPLE TO GET.”

WHY IS CYBER SECURITY SO IMPORTANT NOW?

We live in a modern world, where our phones are rarely out of our hands and computers make all sorts of tasks easier. It’s this reliance on technology that makes protecting it so important. You might not realise it, but cyber security touches all our lives – and it’s not limited to your email password or how you unlock your phone either.

Whether it’s registering your heart rate on your smart watch; shopping online through a secure connection; or even handing over your details at the doctor or the dentist, all that data has to be protected. That’s where cyber security comes in.

With an ever-changing digital society that’s showing no signs of slowing down, cyber security needs to adapt with it. Our cyber security specialists have to be versatile, moving at a pace that can keep up with the rapid technical advances in our society.

That’s what makes them so valuable – and so increasingly needed. They’ve got an important job to do, but an exhilarating one too. Because without even thinking about it, people, businesses and institutions all over the UK are relying on the team that defends the digital world.

DEGREE APPRENTICESHIP

1. THE WORK

Based in Cheltenham, Scarborough or Manchester, you'll have a real role at GCHQ, learning and working amid some of the world's most cutting-edge security technologies. All with a starting salary of £20k.



2. THE STUDY

Alongside your work, you'll spend three years at GCHQ studying towards a recognised degree in cyber security, cementing the work you're doing from day-to-day.

3. AFTER GRADUATION

If you successfully complete your degree apprenticeship then, depending on our business needs, there's a good chance we'll offer you full-time employment with GCHQ or the NCSC.



WHICH ROUTE IS RIGHT FOR ME?

We want to help as many young people as possible to find the tech career of a lifetime – which is why we've designed two different routes that suit different people.

No matter which route you take, you'll learn to work to defend the nation's cyber security. And either way, you don't need to be a coding whizz just yet – we'll teach you what you need. Choose your route:

1. THE STUDY

If you're planning to start university or you have at least two years of full-time study remaining in September 2021, we'll pay you a £4k bursary per year, tax-free, to support your course.



2. THE WORK

Each summer, you'll complete either training at a CyberFirst Academy or an eight-week training placement with the NCSC, a government body, or one of over 100 industry partners. You'll receive a summer placement payment of £2k plus a contribution to accommodation costs.



3. AFTER GRADUATION

Earn your degree and we'll look to place you in a graduate-level cyber security role within UK national security, government or industry.

UNIVERSITY BURSARY



ELIGIBILITY CRITERIA

We're looking for young people from all backgrounds, but there are certain skills and qualifications we'll require, whichever route you choose:

DEGREE APPRENTICESHIP

We're looking for school leavers with:

- UK national or dual national status (subject to security clearance)
- At least BBC (or predicted) in your A Levels (or equivalent to 112 UCAS points*) in any subject
- A GCSE in Maths at 5 or above (or equivalent)
- A passion for all things computing and digital
- The curiosity to explore and master cyber security

UNIVERSITY BURSARY

We're looking for school leavers and university students with:

- UK national or dual national status (subject to security clearance)
- At least BBB (or predicted) in your A Levels (or equivalent to 120 UCAS points*) in any subject
- A GCSE in Maths at 6 or above (or equivalent)
- An aptitude for computers, how they work and how to secure them – and the willingness to learn more
- Dedication, team spirit, and the drive to protect our technology

Plus EITHER of the following:

- You have a place on an undergraduate degree or integrated Masters starting from September 2021, in any subject, at a UK university
- You're already studying for an undergraduate degree or integrated Masters, with a minimum of two years left of your course from September 2021, and you're on course for at least a 2:1 in your grades this academic year

WHAT'S IT LIKE TO BE A CYBERFIRST DEGREE APPRENTICE?



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In an increasingly technological world, it's incredibly important to ensure that the digital systems we're using are protected from malicious behaviour. So it's vital and it's a rising area for careers - but it's also a chance to be innovative. You need creativity to help replace outdated systems and fashion new methods.

I had zero experience in coding when I applied for my apprenticeship. I've gone from not having heard of Linux to being able to navigate it with ease. I've surprised myself in the number of skills I've accumulated over the past two years. It's sailed me far beyond the limits of my comfort zone.”

Current CyberFirst degree apprentice

It's still amazing to me that someone my age is given the opportunity to work with teams and make a difference like this, in such an exciting and fast-paced field. Things change so quickly in cyber security that we all keep learning things and changing things in order to stay at the forefront of really vital work.

This combined with the range of training and the community of people are incredible aspects of the scheme. I know that years from now, I'll have friends in all areas of the business because we've been apprentices together.”

Current CyberFirst degree apprentice

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WHAT'S IT LIKE TO BE A CYBERFIRST BURSARY STUDENT IN INDUSTRY?



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I suppose I found the bursary particularly attractive in that it allowed me to go to university. I was thinking of applying after my A Levels, but I knew that, with my circumstances, I wouldn't be able to get by on my student loan alone. The financial support has been really helpful, in that sense. I'm learning so much too, on a practical level. Right now, in my summer placement, I'm working on a research project on active hacker groups. It's about building awareness of existing threats. Then, when the business talks to customers about the risks in their sector, we can give them bite-sized, concise information on active hacker groups in their specific industry. It's really interesting work.”

Current CyberFirst bursary student

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I had no tech experience; had never studied computing, and I was quite worried when I applied. But now, in my summer placement, I'm learning how to programme. We use mostly C++ and a bit of Python, and because I'm not the most experienced programmer yet, I test existing code and make notes of any errors I find. It's experience that helps me fill in the gaps in my university course. It's even helped me pick which modules to choose in my second year, because it gives me context on which areas will be important for me. I understand now the skills I need that aren't covered in an academic setting, and what I need to set out to learn.”

Current CyberFirst bursary student



WHAT'S IT LIKE TO BE A CYBERFIRST BURSARY STUDENT IN GOVERNMENT?



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You're joining a really tight community. Whenever I come across someone else on the bursary scheme, we've always got so much to talk about. It's always good to be among friendly faces, and I've met a wide network of people that I know will keep popping up as our career journeys go on. Your professional learning and development opportunities really are boundless too. I've been able to attend conferences, inspire younger students, improve diversity, and access amazing opportunities that simply can't be found elsewhere”

Current CyberFirst bursary student

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You're surrounded by people who are experts in security. So if you don't feel 100% confident in the area, then I'd definitely say you'll feel more knowledgeable even after just one summer placement. Your academy instructors or your placement colleagues will be so good at explaining things to you. I've discovered that the roles available in both the public and the private sector are far reaching, and there really is something for everyone. There are paths from penetration testing to secure development, incident response to risk management, then there are sales, project management and recruitment roles. And that's just to name a few. It's just opened my eyes to a huge industry.”

Current CyberFirst bursary student



WHAT WILL YOU BE DEFENDING, EXACTLY?

Aerospace

Cyber security teams make sure in-flight aircraft data and flight paths are protected.

Film and music streaming

Cyber security means protection from DDOS attacks – keeping your bandwidth free for streaming.

Healthcare and education

Cyber security specialists prevent ransomware everywhere from schools to hospitals, so that coursework and medical data are safe.

Satellites

Even in space, you could make an impact. Cyber security protects the GPS satellites that power our maps and satnavs.

Gaming

Cyber security specialists protect user accounts from hijacks and online looting.

Commerce and banking

Cyber security protects bank accounts – as well as online shoppers' payment details while they make online purchases.

Power and communication

Cyber security teams protect power grids and even phone networks – keeping lights on and people connected.

Transport

From train timetables to smart motorways, you could protect the systems that keep the UK on the move.



WHAT DOES IT TAKE TO WORK IN CYBER SECURITY?

Some of the work of our industry naturally has to remain confidential. But there are plenty of things we can openly share about what it's like to work in cyber security.

For instance, you're working in a fast-paced environment, in a sector that's critical both to the UK economy and to the daily lives of people all over the country. You've got to be calm under pressure, and your lateral thinking and creativity are vital too.

We can also tell you you'll be joining a collaborative, supportive environment, and one that welcomes and celebrates diversity. Cyber security specialists come from all walks of life, and what unites us is our passion, our skills and our drive to protect the UK and our digital world.

To help you get a better idea of what our application process involves, we've outlined the main steps, giving you a good basis for what it takes to join our programmes. And of course, it goes without saying that we'll support you throughout the process – keeping in regular contact to guide you through. Here's how it'll work:

- 1.** Visit our website: cyberfirstcareers.co.uk
- 2.** Fill in the online application form
- 3.** Complete the online assessment
- 4.** Attend the assessment centre
- 5.** Receive a conditional offer
- 6.** Vetting begins
- 7.** Fill in the online vetting questionnaire
- 8.** [Certain roles only] Criminal record checks
- 9.** [Certain roles only] Vetting interview
- 10.** Offer and start date

For more on the application process and what's involved in every step, visit our [website](https://cyberfirstcareers.co.uk).

MORE USEFUL RESOURCES

To help give you the best chance of success in your application, here are some useful resources that you might want to take a look at.

Weighing up your options

Choosing between our university bursary or degree apprenticeship is a tough decision, and one that you should carefully consider. Here are some sites that give more detailed information:

- All About School Leavers
- Not Going To Uni
- National Careers Service
- Apprenticeships.gov.uk
- UCAS - Thinking about uni

Having the right skills

We look for people with a particular skillset: teamwork, communication and problem-solving skills being at the top of our list. To find out more about the kinds of skills and competencies we look for, and what we mean by skills and competencies, take a look here:

- Total Jobs
- jobs.ac.uk
- Gov.uk

Acing your application

We want your application to be the best it can be. That's why we've put together some useful links, where you'll find tips on how to make yours really shine:

- **Researching and preparing:**
Target Jobs
- **Online test practice:**
Target Jobs
- **Interview preparation:**
The Star Framework

A taste of how we think

If you fancy stepping into the shoes of our team, then why not test your skills with some of these challenges:

- CyberStart Go
- Cyber challenges
- Cyphinx

Please note that these are general challenges and not specific to the two CyberFirst schemes we're recruiting for, so don't worry if you find them difficult or they don't cover your areas of interest.





TIPS AND TRICKS FROM OUR TEAM

To help you find your way in our world, we asked current degree apprentices and bursary students to give us their recommendations: ways to boost your skills and help you on your way to joining the next generation of cyber security defenders, even if you're a total beginner right now.

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Try to keep yourself up to date with the latest developments in cyber security if you can. The threat landscape is changing 24/7, so the things we know about the industry today may not be applicable tomorrow.”

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Just know that if you believe in yourself and work hard, it's possible for you to do this, no matter your background. I know people with English degrees. Biology. Economics. The typical route is Computer Science – but it's not the only route. There are loads of resources out there too to support you to get started. I'd recommend Immersive Labs, Hack the Box, and Future Learn's introduction to cyber security as great places that could really help.”

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I think it's important to understand the cruciality of balancing academic learning with practical experience. If you're aiming to get on in cyber security, any real world experience you can get is looked on very favourably – and CyberFirst is the place not just to get that experience, but to get it from some of the best organisations in the industry.”

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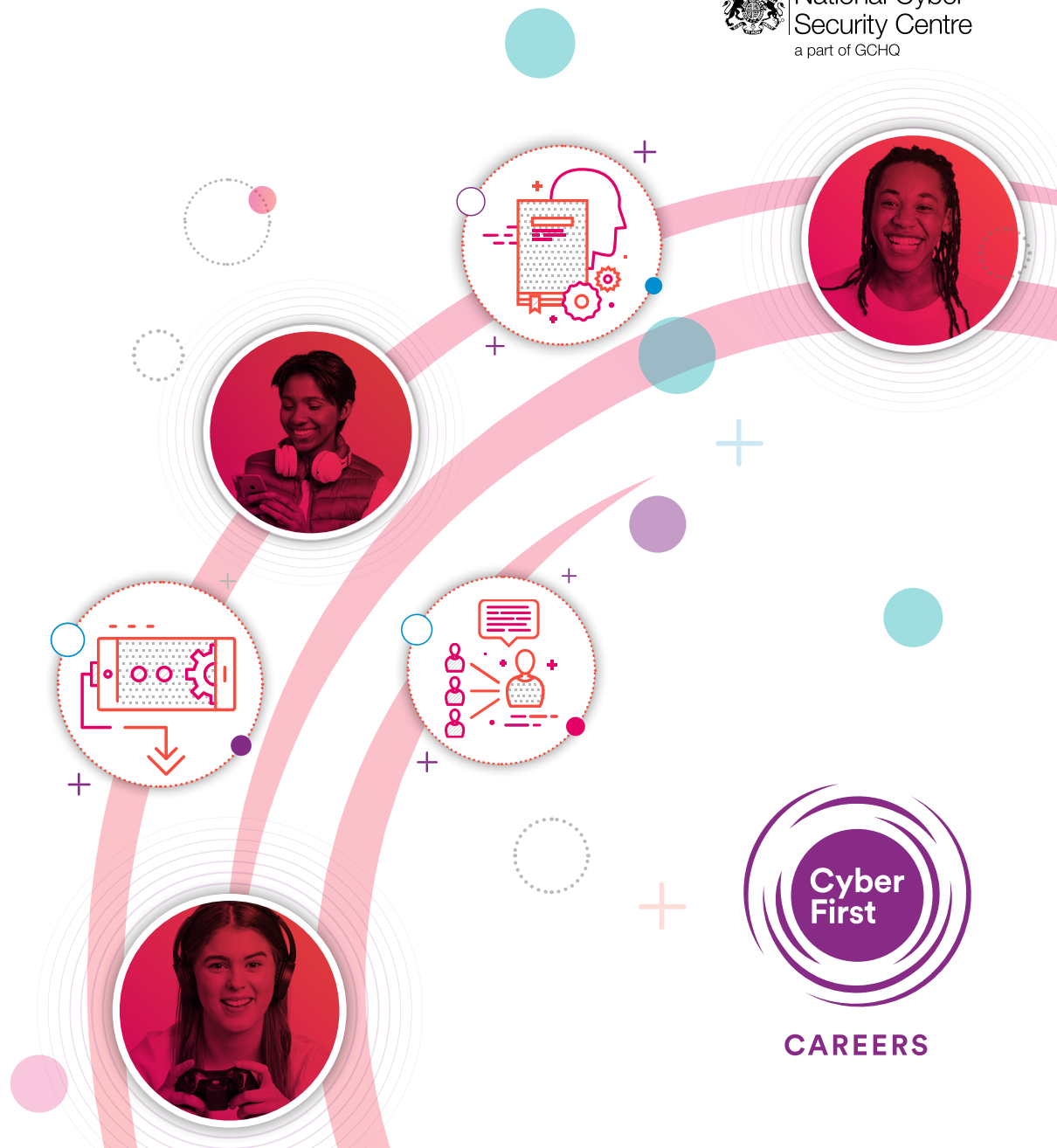
Try Codecademy: it's a free website to learn programming languages. I've used it for every single language I know and I can't fault it at all.”

READY TO OPEN UP THE WORLD OF CYBER SECURITY?

Find out more about our programmes,
learn about the key concepts of cyber
security, and even listen to our podcast, at:

cyberfirstcareers.co.uk

#cyberfirst



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