

## CyberFirst Podcasts

### Tackling myths in Cyber Security transcript

**[00:00:00] Michala:** We live in a digital age. Technology powers everything, from phones and laptops to hospitals, airports, and banks. To keep defending the UK in the digital world, we need more young people to become future cyber security specialists.

In this episode of our podcast brought to you by CyberFirst, we're going to bust some of those myths about cyber security and about our university bursary recent degree apprenticeships too. I'm Michala, a CSO advisor information governance and cyber security consultant. Today, I'm delighted to be joined by-

**[00:00:33] Jane:** I'm Jane, I have recently graduated with a degree in mathematics and I have secured a Graduate Job through the CyberFirst bursary scheme.

**[00:00:40] Arron:** I'm Arron, I studied computer science at university. I now study a master's in cyber security and I've also secured a Graduate job through the CyberFirst bursary scheme.

**[00:00:48] James:** I'm James, I'm studying computer networks and cyber security at university. I'm currently on our summer placement as a CyberFirst bursary student.

**[00:00:56] Michala:** We're also joined by Elena, Tom, and Kitty.

**[00:01:00] Elena:** Hi, I'm Elena. I'm a third-year CyberFirst degree apprentice.

**[00:01:04] Tom:** Hi, I'm Tom. I'm also a degree apprentice.

**[00:01:06] Kitty:** I'm Kitty, and I'm a CyberFirst apprentice.

**[00:01:09] Michala:** It's important for us to get more young people into cyber security, but they often have misconceptions about what cyber security careers are really like. As a quickfire round, I'd like you to name myths that you might have believed yourself before joining on the CyberFirst team, and then bust them by explaining what the reality is.

**[00:01:29] James:** I think maybe the myth, which is present, or at least was for me, is that you need incredible math skills to be able to break into security or really just computing in general, I think. For me, one of the subjects, which I found very difficult was maths and I felt a little discouraged.

What I found very quickly is it wasn't necessary for all areas of computing and there were definitely areas where you could have different skills, which were more relevant. Of course, there are areas where math is more relevant, cryptography and things like that. I probably

would not be so suitable for but there are a lot of other areas where it's not a strict requirement.

**[00:02:09] Michala:** That's really interesting. As soon as you mentioned cryptography, how about you, Jane?

**[00:02:14] Jane:** A myth for me was that you need to be able to code before doing anything cyber security related. I didn't actually learn to start coding until a year ago and I'm trying to make it more accessible by teaching it myself.

The truth is, you don't need it at all, and in lots of areas in cyber, you might not even touch a programming language. You might be purely focused on the policies and ethics behind it.

**[00:02:35] Michala:** Great stuff. How about you, Arron, any myths that you believe before you started?

**[00:02:41] Arron:** Yes, that everyone that did cyber security sat in a dark room with a hoodie surrounded by four screens.

[laughter]

That's just not true. It's not true at all. There are people that sit in dark rooms, but a few and far between, and in some places they wear hoodies but usually, dress code is whatever you want or something business casual.

**[00:03:00] Michala:** Brilliant. I like it. How about you, Tom?

**[00:03:03] Tom:** Another common myth is that apprentices don't actually do real work. When in fact, when you are on your placements, you're working with the team and you're providing a vital contribution to the mission and the goal where you're doing the same work as the full-time employees.

**[00:03:17] Michala:** Kitty, what about you?

**[00:03:20] Kitty:** Another myth that's often believed is that apprenticeships don't pay well. That's definitely not the case because at the end of the day, you are getting competitive salaries or you're in full-time employee, as well as not having the debt of going to uni.

**[00:03:33] Michala:** That's brilliant. A really good point to smile about, the costs benefits of doing it this way, rather than not spending the money for course yourselves. Elena, what about you? Did you have any myths that you believed that have been proved false in your experience?

**[00:03:48] Elena:** I think it's ingrained in you from quite a young age for some reason that it's just for boys. I know past primary school and secondary school, it was all, "Oh, why did she want to do computing or IT? You should be going and doing English, like all the other girls are." I think looking at that and realizing that actually, as we've already spoken about in one of the other podcasts, that if you've got the skill-set to do the job, then you're going to be able to do the job.

I think I was quite lucky in the fact that I did persevere with it, even though I was always told, "No, you should go and do a more feminine job, and more girly job. Why didn't you go and do journalism?" Something like that.

Whereas I followed my heart and here I am not ended too badly for me. There's so many incredible women that have been computer science and cyber security pioneers. Just look at Ada Lovelace.

I think just don't listen to what everybody else says. You're living your own life, so why should you listen to everybody else?

**[00:04:59] Michala:** Absolutely, I agree with you completely. Go with your heart, follow your dream. Cyber security might sound like a secretive sector, but the truth is that we're actually a diverse bunch who come from all different backgrounds and experiences. That includes our university bursary students, and degree apprentices too.

There aren't any set backgrounds needed for you to apply to the CyberFirst programs. Jane, Arron, and James, can you tell us about your degree disciplines and how these are fed into your experiences?

**[00:05:27] Jane:** Personally, I studied mathematics at university, and the university I went to was very statistic heavy. A lot of the modules were in statistics rather than something more pure that I might've enjoyed more.

It wasn't until I went to the university abroad that I took a module called number theory and that links quite heavily to cryptography and I really enjoyed it. I came back to my current university and I've pursued that and linked it to cyber security .

**[00:05:57] Arron:** My university experience was very practical rather than theoretical but didn't have aspects of cyber security involved in it. There was very little cyber security in the course. It was the experience on the placements that made me want to go on and study cyber security for a Master's.

**[00:06:12] James:** I found a similar experience in my degree too. I found that I'm studying computer networks and cyber security , but I found that most of the modules have been really core comp sci and that most of my experience with cyber security has come from that external, you know, through CyberFirst and through being able to interact with that community. The CyberFirst academy has been so incredibly beneficial and really allows you to dive into those areas in a really practical way too.

**[00:06:37] Michala:** That's great. Thank you. Elena, Tom, and Kitty, it'd be really good to understand what kind of backgrounds people in your cohort of apprentices have. If you could also let us know whether those who haven't come from tech backgrounds start at a disadvantage.

**[00:06:52] Elena:** I didn't actually come from a technical background myself. I didn't really know how to code before I started but I definitely wasn't at a disadvantage. It is a lot of hard work to catch up to the others who may be ahead of you but that doesn't mean there's

opportunities for the others that you won't have just because you've come from a non-technical background.

**[00:07:11] Michala:** That's great. Thank you.

**[00:07:12] Tom:** My background came from having an interest in why things work and how they work. That was where my previous job was a technician building and fixing computers. From that interest in technology and national security, it led me to find the CyberFirst degree apprenticeship. It met all the boxes of what I really found passionate.

**[00:07:33] Kitty:** Mine comes from a similar vein actually. Growing up, my dad worked in system engineering, assistant design. I grew up watching him build computers and I had all of this cool technology when I was six or seven.

I was like, "Wow. This is amazing. I want to know how to do this." As cliché as it is, I was heavily influenced by Q in the *James Bond* films.

[laughter]

I grew up watching them always on a Sunday and I was like, "Oh, I really wouldn't be able to do that too." My teachers at school suggested that I do the cyber summer school the year after I finished my GCSEs.

I did that and that week showed me what cyber security is and how incredible it is and how varied it is as well. Then from doing that, to then doing computer science at A-level, I still wasn't sure if actually it was the apprenticeship I wanted to do.

I wanted to go to university and do something totally different. I thought, "You know what? I'm just going to go for it." I'm very glad I have. I think there's such a vary even in my cohort. We've got ex-teachers and we've got people who have been in the military.

We've got people who are in the same boat and they just decided that actually they don't want to go to university because they perhaps didn't have a university wanted to go to, or a course that particularly spoke to them or like me, they're more hands-on learners. I think for all of us, it's just been the perfect opportunity to do what we've always wanted to do and money.

**[00:09:14] Michala:** That's great. Thank you. People often think that apprenticeships and placement opportunities don't provide young people with the opportunity to really get stuck into a business and that they spend their time simply shadowing. What's the reality on the CyberFirst programs? Tom, would you like to start.

**[00:09:34] Tom:** When working within the CyberFirst scheme, you get so much visibility to all different areas of work in cyber security that you could possibly do. Whichever one takes your interest the most, the team that you go with they provide you with so much support so that you can have a real impact on the real work you're doing to go towards your objective.

**[00:09:51] Kitty:** I absolutely agree that. Every single placement that I've had, my team have said to me on the first day, "What do you want to do?" It's never been, "Oh, here's this thing that we need somebody to do for six weeks," which I think has been really good.

Having that flexibility to perhaps explore ideas and concepts and theories that you've always been interested in or even something new, there's always the opportunity to do that. If you decide it's not for you, then you can just say and there'll be more than happy to go in a different direction.

**[00:10:22] Jane:** In terms of the bursary students, we've still got to apply for the job as anyone would for any job. You're hired based on what you know and the skills you have. Although you're going to learn, they've hired you because of what you know and what you can do and they want you to show that as well on the job so you're given the reigns pretty quickly.

**[00:10:41] James:** I think just being able to get that really direct access to the real work rather than just being sort of in a situation where you're either learning or being tested so to say. You're working on the real thing, which I think is incredibly beneficial.

**[00:10:56] Elena:** I also think it's important to remember that teams want apprentices as much as apprentices need to go to the teams for experience so they want to give you interest in work so you come back and you think they're a good team because they want you because you provide them with so much.

**[00:11:09] Arron:** In every placement I've undertaken, there are the usual two weeks of learning, but after that you are straight in.

**[00:11:15] Michala:** That's great. Can I just say as well, one thing that I found with our placements last year, it really lifted the mood to the whole team in terms of that reminding us of the enthusiasm and passion for the topic.

Let's have a quickfire round. For this one, I want to hear the tips or tricks that you'd share with future CyberFirst bursary students and degree apprentices for succeeding in cyber security and for getting their cyber security career off to a flying start. Ready? Kitty, I'm passing this to you to get started.

**[00:11:46] Kitty:** I'd say a tip I've got is to not expect to know when you first start but just be prepared to learn. That way, you'll be able to make progress so quickly.

**[00:11:56] Tom:** Another I'd say is always ask questions. It doesn't matter if you don't know the person, everyone is always going to be happy to help and share their knowledge. That way, you can develop yourself the best.

**[00:12:06] Jane:** I'd say, follow your passion. If you've found an area in security or even technology you're really passionate about, dig into it more, find how it works, find out how it could be better. That'll really show you up when you do go to apply for jobs and things.

**[00:12:21] James:** I think that when you go into something with such a passion, going into it with that. Then being open to explore other areas too because IT is such a massive umbrella and then being able to just really take off every single opportunity.

**[00:12:35] Arron:** Mine would be, if you don't have the passion, don't be worried or scared, try everything and see if there's something that you like.

**[00:12:43] Elena:** I think, for me, if you read an article, if you read a book, send an email to somebody, send a tweet to somebody. Just start that conversation with somebody because everybody wants to talk about that work.

You're never going to beat somebody that isn't passionate about what they've done, if they're publishing it. Just make those connections, go on LinkedIn, add some friends, you'll be sorted.

**[00:13:07] Michala:** Really great advice from all of you there. That's also a great way to get you a mentor as well, Elena, I have to say. From everything we've discussed, it's clear that careers in cyber security aren't quite what meets the eye.

From providing long lasting careers to creating opportunities to make a real impact to the nation, the potential that comes from joining the CyberFirst programs is limitless. If you're ready to become a future cyber security specialist, take a look [www.cyberfirstcareers.co.uk](http://www.cyberfirstcareers.co.uk) to find out more about the CyberFirst degree apprenticeship and university bursary programs.

In this final podcast episode, as always, thanks to all our guests and thanks to you too, for listening as we open up the wonderful world of cyber security . See you there.

**[00:13:59] [END OF AUDIO]**