HOW FURTHER EDUCATION MEETS INDUSTRY DEMAND FOR SOFTWARE SKILLS

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Fast Facts

These key findings support the accelerated delivery of software skills by Further Education Colleges and demonstrate the real economic benefit to local communities.

1. The combination of Covid and Brexit has caused widespread unemployment and put an emphasis on the need for a technically skilled workforce.

2. Digital tech vacancies in the UK grew 36% between June and August 2020 according to a report by Tech Nation. With over 90k vacancies per week the sector is outperforming all except healthcare in the demand for employees.

3. Further Education Colleges are an integral part of creating the workforce to meet this demand and bringing economic security to their community.

4. Colleges can partner with online education specialists like Code Institute to deliver level 5 software development qualifications that meet Advanced Learner Loan funding requirements.

5. This gives Further Education Colleges the capacity to turn learners into earners in 12 months - employed in high-demand, sustainable tech jobs.

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Code Institute's career-changing courseware inspired the creation of a new Level 5 Diploma in Web Application Development by Gateway Qualifications. Economic demand and availability of funding prompted one college of Further Education to spot the opportunity.

Covid-19 has devastated lives and livelihoods, and how quickly we rebound from it depends on thoughtful and concerted action from government, business, and education.

Job losses will cut deep, especially in retail and hospitality, with thousands of mainly younger workers in need of new career opportunities. Students are understandably anxious about the future; Covid robbed them of a huge part of the college experience, so it is vital that the direct outcome of their hard work — a good job or good job prospects — is protected.

Further Education can make a key contribution. FE colleges have particularly close links to their local communities and have the capacity to respond to the growing realism among employers that an apprenticeship-style model of recruitment is the best way of provisioning the tech skills they need.

FE colleges are in a bind: they recognise the demand for a recognised qualification to skill or re-skill people for employment in tech roles — and do so within a relatively short space of time — but lack the resources not only to create such a course but to deliver the teaching.

Newcastle College saw a path through this and is now enrolling learners in the new Gateway Qualifications Level 5 Diploma in Web Application Development. The qualification is funded through the Advanced Learner Loan mechanism and delivered by a third-party online education platform, Code Institute.

The non-negotiables for Newcastle College were that the course be delivered flexibly to fit in with the complex real lives in its local communities, that it offered learners an opportunity to turn their lives around quickly, within a year, and that funding was readily accessible. Code Institute has a consistent employment track record of 90% and is widely recognised by business and the IT industry; both are instrumental in shaping the course content, keeping it relevant to the demands of employers.

For Andrew Nicholson, Head of Digital Technologies at Newcastle College, the new qualification is a compelling alternative to a degree course that may or may not lead to a better job after three years, but will require a much greater investment of time and money.

We are grateful to Andy for his time and effort in making this new qualification available to his local community. And for acting so quickly! Just a few months after we started talking to Newcastle College, it was enrolling learners on the new course.

The depth of the jobs crisis created by Covid and Brexit requires this type of response.

We are keen to share the opportunities of the new Gateway Qualifications Level 5 Diploma in Web Application Development with other colleges of Further Education, and hope this white paper will give you the context and incentive to start that conversation.

Lee Lindsay
Education Consultant
lee@codeinstitute.net

"According to a report by Lloyds Bank, 13.6m people in the UK aged 15+ lack the essential digital skills required for work, a staggering 42% of the workforce."

Jane Gormley, Director of Employment Services, Code Institute

"Colleges are deeply embedded in the local community, so they are key in bridging the digital divide and creating the skilled workforce local employers are looking for."

Louise Aitken, Skills Lead, South East LEP

"The pandemic squarely presented to people who were either unsure about their chosen career path or learners weighing the options for their future that the digital economy offered them by far the best opportunities."

Andrew Nicholson, Head of Digital Technologies at Newcastle College

Introduction

These key findings support the accelerated delivery of software skills by Further Education Colleges and demonstrate the real economic benefit to local communities. At the height of the first wave of Covid lockdowns, school closures affected 1.6bn learners worldwide, according to Unesco. Such interruptions to learning have a disastrous long-term impact, especially in the developing world. In the wake of the ebola outbreak of 2014-2016, 25% of learners in Sierra Leone did not re-enroll, with girls far more likely to permanently drop out of education than boys.

Worldwide, drop-out rates in the K-12 cohort are likely to be far higher among learners with low access to remote learning, vulnerable learners, and learners from low-income families. In the US, between 2% to 9% of learners are thought to be at risk of abandoning their education as a result of the lockdowns.

The vagueness of this estimate should not blind us to the seriousness of the problem. A report prepared by Lloyds Bank at the height of the first wave of corona lockdowns estimated that 13.6m people in the UK aged 15+ lack the essential digital skills required for work, a staggering 42% of the workforce.

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Local Landscape

In England, 38 Local Enterprise Partnerships (LEPs) are at the frontline of this digital divide. “Lack of connectivity - just basic lack of kit - is hindering the chances of young people and adults to participate in training, and to be part of society really,” says Louise Aitken, Skills Lead for the South East LEP which is launching a £2m procurement initiative to re-skill local communities hit hard by Covid-19. “Part of the programme is a package for digital connectivity,” Aitken adds, “because this is what local employers tell us time and again: they need people with digital skills.”

All over England, LEPs are brokering conversations between employers, government and education to make a real difference to growth and job creation. In the South East, a great example of this partnership approach is co-investment in Stansted Airport College, one of a number of SELEP capital investments worth over £40m. SELEP, Harlow College, Essex County Council and the Airport invested in this facility.

Other examples include £2m for Basildon Technology Centre and investments such as £3m for Plumpton College in East Sussex, supporting land-based and agri-food sector equipment including robotics and digital — and illustrating how cross sectoral digital skills needs are. “Colleges are deeply embedded in the local community, so they are key in bridging the digital divide and creating the skilled workforce local employers are looking for.”

This comes with huge challenges. South East LEP has funded a Tutor Bursary and awareness raising programme (www.becomealecturer.org) to overcome a major barrier: recruiting staff to teach those skills of the future.

“Further Education Colleges are embedded in their local communities and economies and work in strong collaboration with LEPs and other local partners to understand local needs now and in the future. However, there are often funding constraints and a lack of flexibility with how funding can be applied which can hinder the response to a fast changing digital skills need. Additionally qualifications can take some time to be put into place. The challenge with tutor recruitment exacerbates this. Greater flexibility to respond to economy needs would be welcome and which we hope to trial with our own Covid-19 Recovery funding.”

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Further Education Leads the Way

Further Education Leads the Way

The heart of this white paper is the experience of a college of Further Education in the North East of England that resolved these tensions by deploying a new qualification that takes learners from a standing start of little or no knowledge of code and software development to finding employment within a year. The FE college was able to move quickly on this because crucially, the Gateway Qualifications Level 5 Diploma in Web Application Development will be delivered by the college itself, but with the support of a third-party education platform.

“We had an agenda to broaden opportunity before Covid-19, but Covid-19 has made this more urgent,” says Andrew Nicholson, Head of Digital Technologies at Newcastle College. “The pandemic squarely presented to people who were either unsure about their chosen career path or learners weighing the options for their future that the digital economy offered them by far the best opportunities. What’s more, the new qualification makes those opportunities accessible to them within a year — and that is all a piece with our objective to unlock the full potential of our local communities.”

In this white paper, we shall first outline why colleges and universities have to accelerate their delivery of digital learning. We then hear from Nicholson about why Newcastle College decided to deploy the Code Institute platform to do this, and what he expects the course to achieve for his learners. Finally, we explain why Code Institute is ideally positioned to prepare learners from all over England for the growing opportunities within the digital economy.

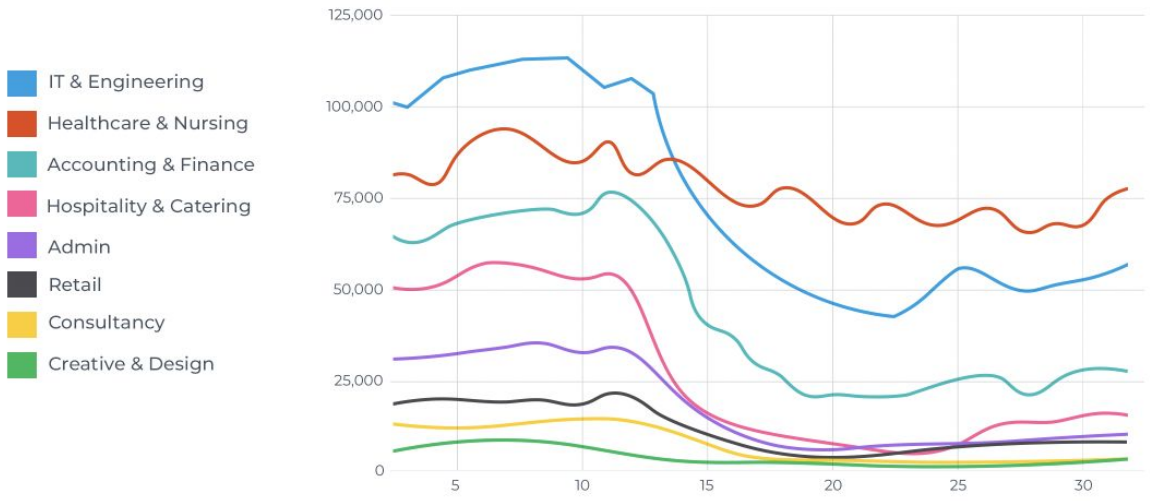
The Digital Skills Gap

> "..vacancies for roles in digital tech rebounded by 36% between June and August 2020."

In August 2020, the London-based business paper City A.M. reported that the existing digital skills gap was causing the UK to lose out on £63bn in GDP every year. "As a result of Covid-19," it wrote, "traditional industries are digitalising, new sectors emerging, and our ways of working rapidly changing — and so that figure is only going to dramatically rise without decisive action."

The shock of Covid-19 and the uncertainties around Brexit inhibited UK employment across all sectors. The graph below shows confidence returning to the labour market from the early summer, with healthcare and nursing showing the largest number of job vacancies, not surprisingly. IT and engineering were not far behind; vacancies for roles in digital tech rebounded by 36% between June and August 2020.

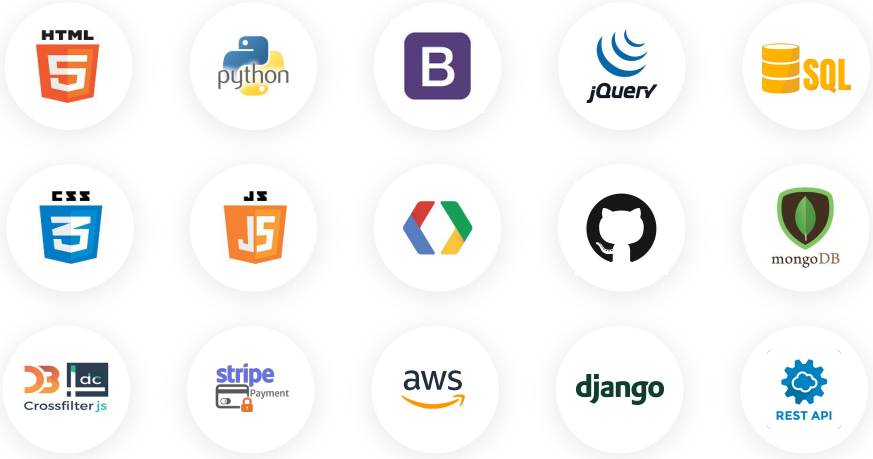
Vacancies in the UK by Sector From Jan - Aug 2020 (adzuna)



Tech Nation, Jobs and Skills Report 2020

Skills in Demand

What are the skills required for these new tech roles? In April, an analysis of over 1m UK jobs posted on LinkedIn showed that database management language SQL was in the biggest demand, as companies struggle to leverage their data. JavaScript and Python took the other top spots while the first non-coding skill (French) was well down the list.

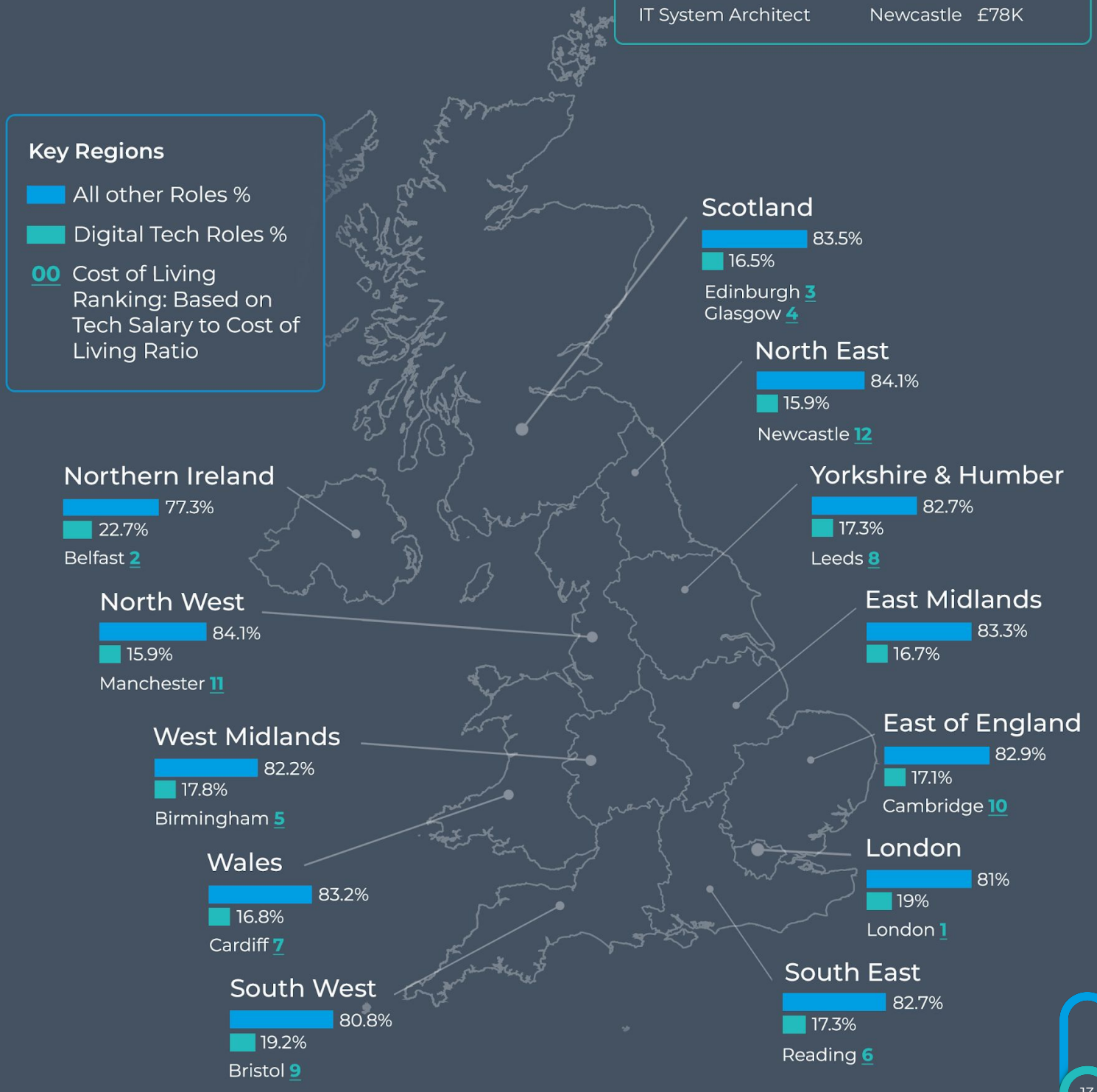


Salaries, Jobs and Cost of Living

- **Northern Ireland** has the highest proportion of digital tech roles: **23%**
- **London, Belfast** and **Edinburgh** have the most favourable tech salary to cost of living ratio
- **Sheffield** is the best city to work in for Data Scientist based on salary to **cost of living** ratio

Best City to Work as a...

Jobs	City	Avg Salary
Software Developer	London	£62.5K
Data Scientist	Sheffield	£65K
Front End Developer	London	£60K
Infrastructure Engineer	Edinburgh	£54.5K
Business Analyst	London	£60K
IT System Architect	Newcastle	£78K



Skills Challenge

> "9.8% of computer science learners did not complete their degree, compared with an average across all subjects of 6.3%."

Even before Covid-19, Further and Higher Education were not plugging these gaps, with UK universities producing just shy of 30,000 computer science graduates a year — a drop in the ocean. Equally concerning were the 2019 GCSE results for England, Wales, and Northern Ireland which showed a decline of more than 40,000 in the numbers sitting for a qualification in either computing or information and communications technology (ICT).

However, the most striking statistic is the dropout rate for degrees in computer science, which is consistently the highest across all subject categories — and 2019, the latest year for which we have official figures, was no exception: 9.8% of computer science learners did not complete their degree, compared with an average across all subjects of 6.3%.

What is Going Wrong?

> Universities and colleges need to get this right because a successful post-Covid recovery is impossible without the skilled workforce ready to make this happen.

Generally, learners say that the course was too boring or too difficult, or too difficult to combine with work and family responsibilities. Another important reason for abandoning a degree is that learners do not see a viable job at the end of it.

We know this is emphatically not the case for computer science, yet it is what a lot of learners seem to believe. The drop-out rate for creative arts and design degrees, where the career path is much less clear and predictable, is lower at 7.2%.

It is no good blaming the learners if for whatever reason they cannot continue with a qualification that will almost certainly land them a job once they have it. Universities and colleges need to get this right because a successful post-Covid recovery is impossible without the skilled workforce ready to make this happen.

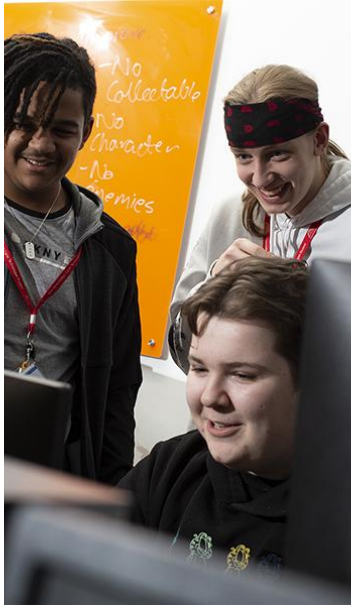
By their very nature, universities change slowly. The usual buzzwords of digital transformation — 'agility' and 'speed to market' — do not and arguably should not apply to Higher Education.

Yet learners need to see their futures now and be prepared for the world that awaits them at the other end of Covid-19. We shall now look at an example of how a college of Further Education is tackling this problem.

Why Newcastle College Chose Code Institute

“The ability to get it off the ground now far outweighs the potential advantages of creating a qualification like this under our own steam, as the resources needed and the time frame involved in developing the platform would be very considerable.”

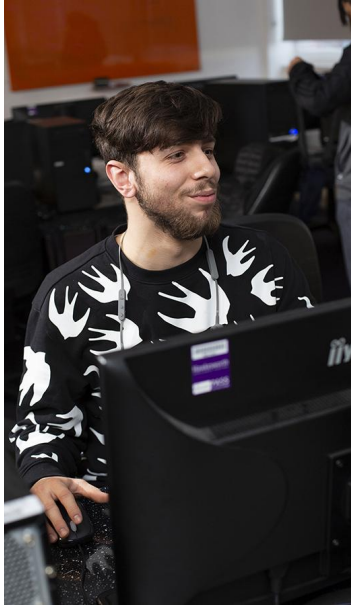
Andrew Nicholson,
Head of Digital Technologies
at Newcastle College

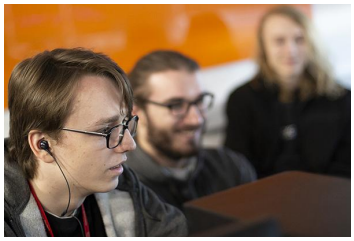


The North East is one of the UK’s most dynamic digital hubs, with companies such as Amazon Web Services, DXC (formerly known as Hewlett Packard), Accenture and IT consultants Waterstons in active dialogue with institutions such as Newcastle College about the talent pool they wish to see created in the region — and actively recruiting from that pool. “The idea that graduates from the North East had to come to London to find work is a hangover from the 1980s or 1990s,” says Nicholson. “There are jobs here, especially in the digital economy. How we best deliver the talent to step into those jobs is another matter.”

Newcastle College wants to become the finest STEM college of its kind in the UK — and is investing to make that happen. Nicholson’s department recently received substantial funding to create three distinct hubs: a cyber-based hub, a commercial apprenticeship hub and a development hub where the new Gateway qualification will be based.

Nicholson's role in that ambitious strategy is to nurture a mix of courses and qualifications that is inclusive and increases opportunity for everyone in the local community and beyond. At the height of the first wave of corona lockdowns, he was approached by Code Institute about a Level 5 qualification it was developing with Gateway Qualifications. "Code Institute had come across us because it has done some work with Accenture in Ireland, and we deliver apprenticeships for Accenture up here in the North East," says Nicholson.





The Right Fit

The Code Institute proposition caught Nicholson's eye because it tied a regulated qualification to relevant skills along with a 90% employment record. The ability to teach remotely and therefore flexibly fits in with many with different job and family situations, and gives Nicholson and his team many options in terms of their delivery model and programme duration.

"That was a big selling point for us," says Nicholson. "That we could offer learners the option of moving from a standing start of knowing little or nothing about coding to landing a job in software development within a year. That was the headline if you will."

As part of his due diligence, Nicholson sounded out the members of his Digital Advisory Board which includes Accenture as well as DXC, Virgin Money and a raft of SMEs active in the North East. "The feedback was, yes the Code Institute course gives people a solid foundation of skills with which they can start to approach entry-level positions."

Funding Model

> "Students aged 19 or over can apply for an Advanced Learner Loan of up to £5,421 for the Gateway Qualifications Level 5 Diploma in Web Application Development."

Nicholson's inclusivity agenda meant that the course, any course, however effective, had to be eligible for funding. "Once the Gateway qualification was approved that then opened the doors to attach funding to it which is where our interest really came in."

Students aged 19 or over can apply for an Advanced Learner Loan of up to £5,421 for the Gateway Qualifications Level 5 Diploma in Web Application Development. Repayment of the loan is phased in once graduates are earning in excess of £26,000.

Newcastle College deliver the course while Code Institute supply the content, technological integration and a raft of learner supports. This gives learners 24/7 access and round-the-clock support to help maintain their momentum and a high degree of flexibility. "Students can set their own pace," Nicholson says, "but we've said that for the full 35 weeks of the course, we enhance it with some learning development. We'll give you a weekly workshop where you can speak to a teacher from Newcastle College either face to face or remotely depending on where we find ourselves coming up to Easter."

Up and Running

Newcastle College has been advertising the new Gateway qualification on social media and through activities led by Newcastle University as part of a regional 'Level Up' campaign. As a result, just a few months after the Gateway Qualifications diploma was approved, learners are enrolled and have started the course.

'Speed to market' was key.

"We have degree awarding powers, so we can write our own degrees, but we are essentially a teaching University centre," says Nicholson. "The ability to get it off the ground now far outweighs the potential advantages of creating a qualification like this under our own steam, as the resources needed and the time frame involved in developing the platform would be very considerable.

"The momentum for this is such that we accepted we might have to take some of the income and pay that out to third parties to achieve this turnaround for people to engage with this, get through it successfully and try to get into employment ideally in the same year."

Nicholson started the first course in February, several months earlier than expected due to demand. "Then if demand allows it, we look to run another course in June or July, or we might stagger that into September. Then if we start to get the numbers, I'm hoping to run three or four starts in a year."

Learner to Earner

> "People can start this qualification and walk into a job within the same year. Such a rapid turnaround is a great fit with our skills and inclusivity agenda."

The new diploma by Gateway Qualifications broadens choice for learners, and asks them a compelling question: should I commit to a computer science degree with the prospect of a job three years away, or get the Gateway qualification and enter employment within a year, with far less debt?

Arguably, the student with the computer science degree would find a 'better' job than the student with the Level 5 diploma, but who after three years is the better software developer, and more deployable in the industry?

"People can start this qualification and walk into a job within the same year. Such a rapid turnaround is a great fit with our skills and inclusivity agenda. If I were in retail or hospitality for instance and felt my career was insecure, three years to change direction would seem like a long time. I may have a part-time job, or I may have family commitments, but this course gives me the flexibility to fit it around whatever else I'm doing. If I put the work in, I would see results within a relatively short period of time. That would be a big sell for me," Nicholson concludes.

There is More to a Career than Code

No amount of coding virtuosity would be of benefit to learners if it did not align with what the market was demanding. Code Institute has consistently maintained its 90% employment success rate by offering an intuitive learning platform with a syllabus that is under consistent review from its Industry Advisory Council (IAC), a body comparable to the Digital Advisory Board that advises Nicholson at Newcastle College.

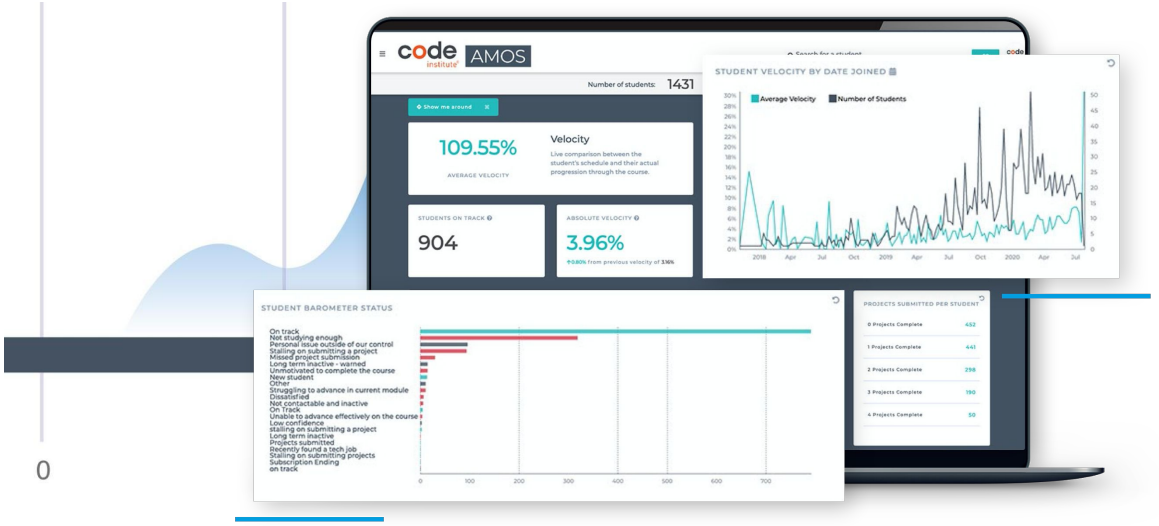
Industry Relevance

Input from employers and industry pioneers such as eBay, Microsoft and RedHat keeps the Code Institute course fresh and relevant. It was they who from the outset pushed for a greater emphasis on Python in the course's full-stack syllabus. More recently, the IAC is highlighting a growing demand for React Native, a framework to build mobile applications, and Code Institute is responding by making React a more prominent part of the course. This is almost impossible to do in traditional Higher and Further Education; even FE colleges with their close ties to local business struggle to adapt their courses to real-life demand.

But this is just one side of the equation. The drop-out rate on computer science degrees is the highest across all university subject groups, as we observed earlier. We suggest there are two main reasons for this: career support kicks in too late on these three-year courses, and learners who are falling behind are caught too late, fall between the cracks, and abandon their degree.

Aptitude may be another contributing factor. As part of its intelligent quality assurance process, Code Institute asks anyone interested in the course, and this includes learners who want to enroll in the Gateway Qualifications Level 5 Diploma in Web Application Development, to do its 5-Step Coding Challenge.

As Nicholson says: “What we don’t want to do is put somebody on this course and find out three months in that they don’t like it, and it’s not suitable for them.” It matters greatly to universities and colleges of Further Education that learners complete their course and get their qualification.



Support for Learners

One of the paradoxes of remote learning is that it often does a better job at spotting problems and intervening early than the traditional classroom. Code Institute tracks student progress with its bespoke learnings analytics software, so course tutors and mentors can step in with timely support.

“We have a dashboard for every student,” explains Jane Gormley, director of careers services at Code Institute, “so we know precisely how quickly they are moving through it, and whether they’re using all the supports, so it’s not like you can hide in the back of the classroom on our programme.”

The dashboard not only monitors student performance and participation on the course, it also tracks them as they move towards employment in those in-demand tech roles. This is the rationale of the Code Institute course, and also one of the main metrics for government funding, especially in Further Education.

The teaching and support work together towards one goal: a job with good career prospects. The support structure has three main pillars: 24/5+weekend access to tutors, regular appointments with assigned mentors, and a Slack community of Code Institute learners, past and present.

“The online campus is a great resource with some 4,000 learners and alumni on there. It’s great that learners who have finished the course and are working in the industry are still contributing,” says Gormley. “We know it works because there is a direct correlation between learners who engage with our Slack community channels and the [shorter] time it takes to move into a job after graduation.”

Achieving Employment Goals

As Nicholson highlighted already, to learners on three-year degree courses, the goal of employment (and also, the usefulness of careers advice) can seem remote. This is why Code Institute made careers support an integral part of the course.

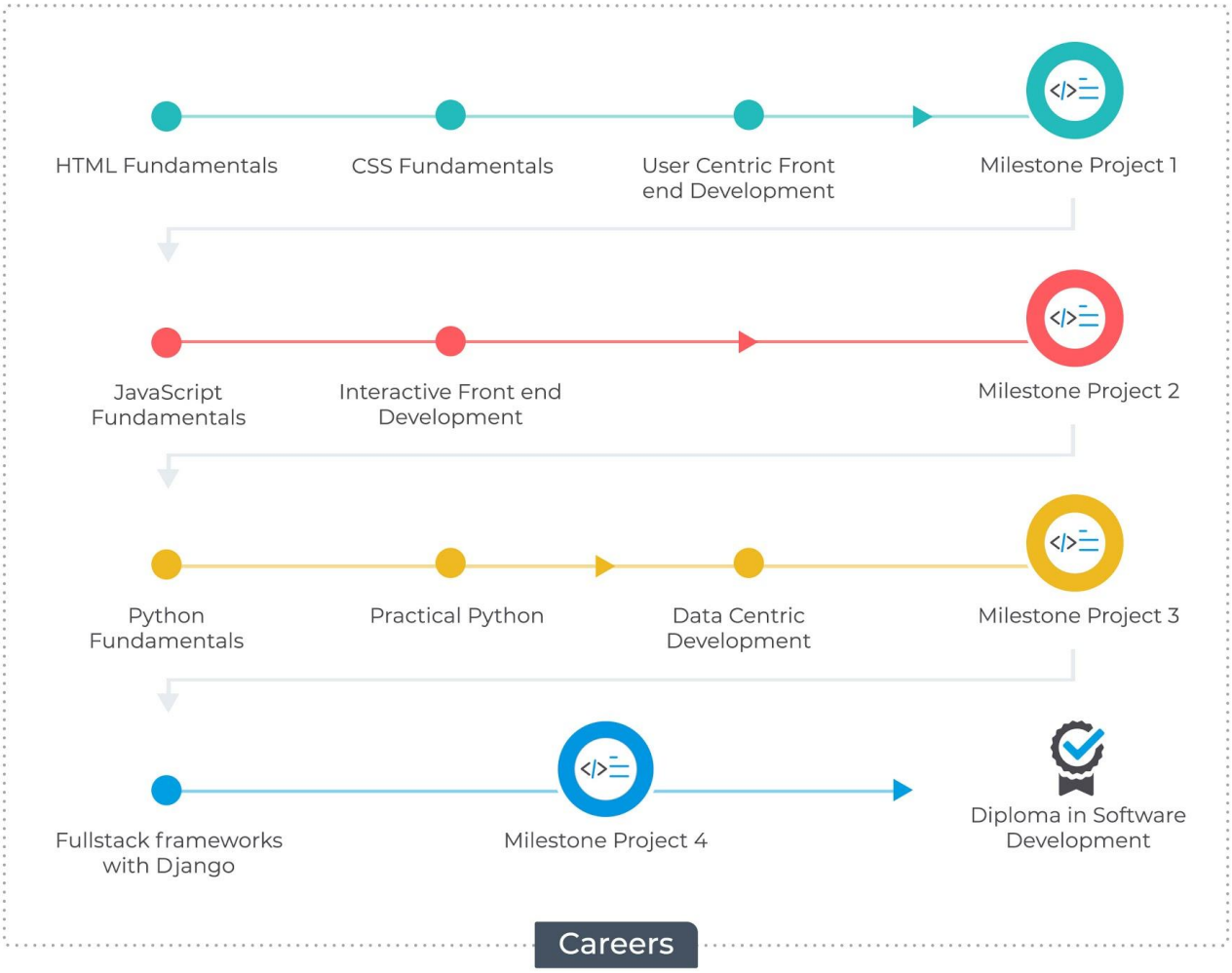
“It’s not like you do the whole programme, and you learn how to code, and then we leave you to knock on those doors at the end of it,” says Gormley. “It’s our job to open those doors and we do that from day one.”

An important plank of that support are weekly careers webinars. “One of our hiring partners will bring in a software engineer or someone from DevOps to tell learners in a very human, practical way what the industry is looking for,” Gormley explains. “This is a great opportunity for our learners because these companies are recruiting directly.

> “But what’s just as important is that the webinars demystify the world of tech and the recruitment process. Both can be intimidating.”

The course is punctuated with regular careers podcasts. After completion of the second coding project (there are four in total), learners are invited for an individual consultation to go through CVs, LinkedIn profiles and covering letters. “Some employers require covering letters, others don’t, but if nothing else, they are a brilliant exercise to prepare you for the first five minutes of your interview when you are probably most nervous. It’s good that you can ‘power through’ to tell your story, and to position yourself. Employers aren’t just looking for code, they want to find out about you as a person and how well you are going to fit in.”

This one-to-one career planning review is followed up with at least two more sessions “to ensure that the student is comfortable with his or her messaging”.



Practical Approach

A core part of the message is that Code Institute graduates have the right technical and soft skills for future employers. For this reason, assessment is not based on exams but on portfolio projects, where learners can develop personal interests and experiences, and show employers something of themselves beyond their coding skills. If there is anything employers prize more than technical know-how, it is that personal and cultural fit with the company.

In the end, the content of the Code Institute course and the jobs potential it unlocks are inseparable, as both are industry-led. “It is very reassuring for learners to experience that even before this course was built, there was industry influence on it,” Gormley concludes. “And so, as they learn, and as they engage with our careers support and the wider community of Code Institute alumni, they absorb the skills and culture of the industry where there are so many opportunities.”

Conclusion

Covid-19 has blown a hole in the education of many young people, and created a lot of insecurities among the young about the kind of life and career they will be able to carve out for themselves.

Universities have performed minor miracles in adjusting to remote learning, but without changing a culture and exam-led academic approach that has served it well for hundreds of years.

The innovative course from Code Institute has long enjoyed academic recognition and accreditation but is now much more widely accessible through a regulated qualification the mechanism of the Advanced Learner Loan.

Newcastle College was quick to spot the opportunity. As a college of Further Education, it can play a much more pragmatic role than universities in connecting its local communities with the jobs market. It has taken the initiative by adopting Code Institute's programme to support an under-served portion of their local community: people who are looking for a flexible, cost-effective and above all quick route to a career, or change of career.

As the dust settles after Covid-19, and the full scale of its disruption becomes clear, that is likely to be a lot of people.

Code Institute Delivery Pathway

1. Gateway Qualifications consulted with Code Institute for the creation of the Level 5 Diploma in Web Application Development.

2. Gateway Qualifications and Code Institute provide Further Education Colleges with a seamless integration of the technology, content and expert support to facilitate the delivery of the qualification.

3. Once FE Colleges are registered with Gateway Qualifications they will receive a marketing consultation to help with student recruitment and train-the-trainer sessions with a senior developer from Code Institute to enable delivery.

4. Colleges have access to the Coding Challenge which enables them to quickly assess and enroll suitable learners.

5. Approved learners can access funding via the Advanced Learner Loan up to the full amount of £5,421. This gives FE colleges the reassurance of a financially viable solution.

6. Code Institute provides a full suite of learner supports throughout the delivery, these include 24/7 access to the LMS, tutor support, mentoring and career services.

To find out more please contact lee@codeinstitute.net
Or click here Diploma in Web Application Development

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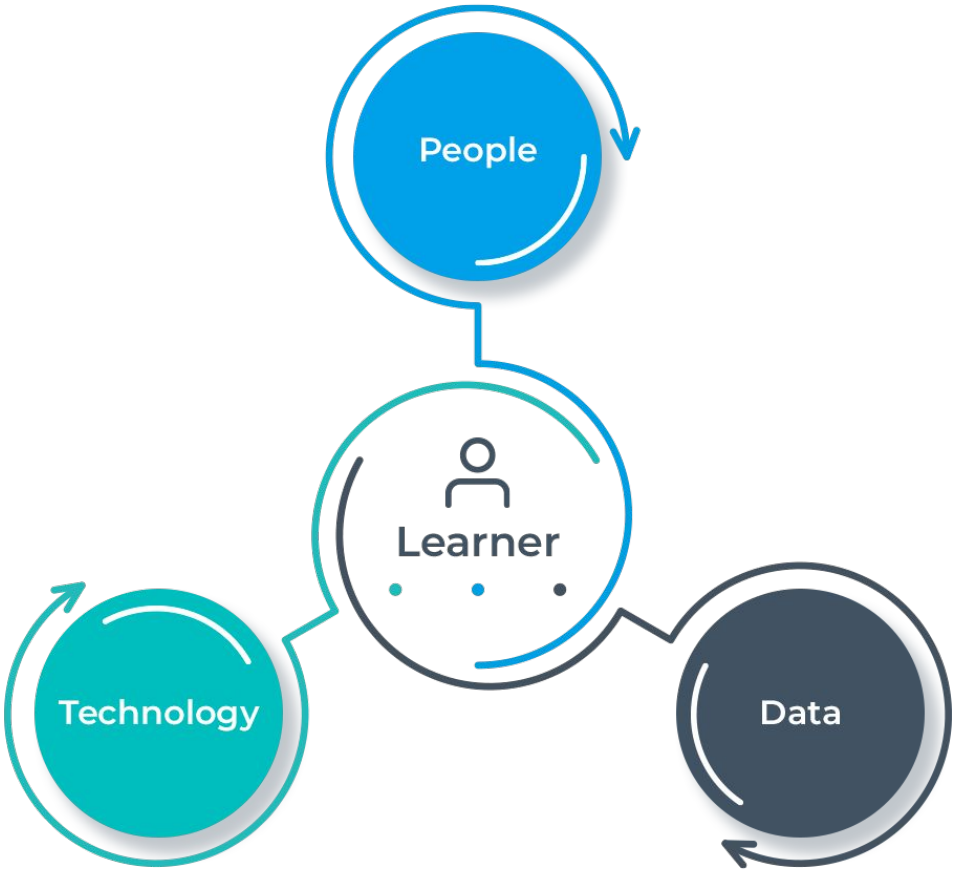
Our Online Campus



Technology, Data, People

Code Institute unifies people, data and technology to help colleges deliver this course. We work with you to put the learner centre-stage. Our assessment tool ensures you identify learners with the right aptitudes. Our technology provides classroom analytics to pinpoint learners needs and deliver human support. Our career team coaches and prepares learners and secures interviews for all graduates. We use our industry expertise to match your grads to careers where they will thrive.

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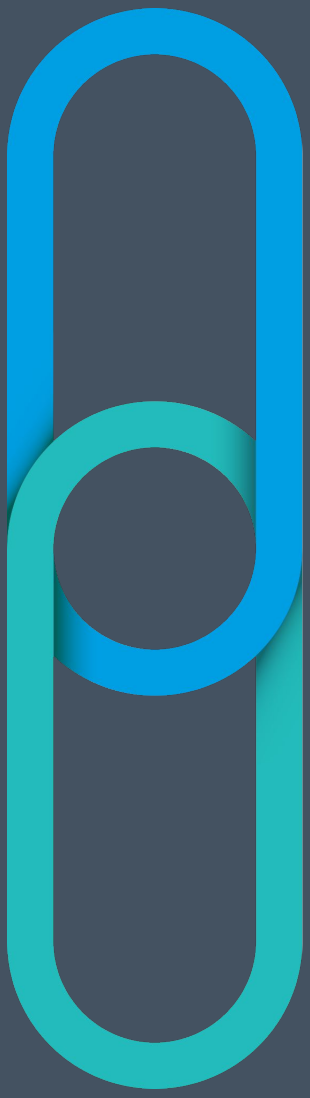

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