IN PARTNERSHIP WITH University of Roehampton London

DEGREE APPRENTICESHIP

Apprenticeship Programme Guide

# BSc DIGITAL AND TECHNOLOGY SOLUTIONS

## Degree Apprenticeship

DIGITAL AND TECHNOLOGY SOLUTIONS PROFESSIONAL (INTEGRATED DEGREE)

Degree Apprenticeship Standard: ST0119

**VENDOR QUALIFICATIONS INCLUDED**

QA.com

2023/24

QA is one of the UK's leading tech talent and training organisations. Specialists in technology, we provide a comprehensive suite of talent and training services helping individuals and companies to be winners in the digital revolution.

## WHO ARE WE AT QA DEGREE APPRENTICESHIPS?

We're passionate about supporting our learners in fulfilling their potential, arming them with the skills to achieve their career aspirations.

Working in partnership with universities, colleges and education specialists in the UK, we recruit, market and deliver a range of programmes from undergraduate to postgraduate degrees Level 7 qualifications.

**3,000+**
**students** studying with us and our partners

**4**
intakes throughout the year for Degree & Higher Apprenticeships

Providing **in-demand skills** in Cyber, IT, Software Development, Data, Digital Marketing, Project Management and AI

**Helping you retain talent** and **build capabilities** by supporting learner evolution from level 3 to 7

**Blended learning** that enables learners to develop further and deliver faster

**Interactive portals, real time dashboards** and **alerts** enable you to efficiently track learner progress

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# INDUSTRY STATS

**83%** of senior financial decision makers polled agree that offering formal training beyond the basic functions of a job has a positive effect on people's performance at work – despite more than a quarter (26%) of businesses not offering any training in the last 12 months.

Currently, **nine in 10** organisations admit they have a shortage of digital skills.

Open University, 2019

Nearly **3.3 billion** of unspent apprenticeship levy has been returned to the UK Treasury.

Financial Times (ft.com)

**90%** of apprentices stay with the same employer after completing an apprenticeship.

National Apprenticeship Service (NAS) Data

Approximately **42%** of apprentice starts in 2022/23 were by learners aged 25 or over.

explore-education-statistics.service.gov.uk

# PROGRAMME OVERVIEW

The BSc (Hons) Digital and Technology Solutions Degree Apprenticeship develops core technical skills, knowledge and behaviours for the development of innovative digital solutions.

Through the combination of structured and self-directed learning, and on-the-job experience, learners will build the skills and knowledge necessary to become highly skilled professionals, ready to become the next digital and technology leaders of the future.

Learners will choose to study one of four specialism pathways on this Degree Apprenticeship, with one specialism module at both Level 5 and Level 6. These modules offer opportunities to develop technical areas of relevance to the learners' roles.

**The four specialisms available are:**

1. Data Analyst
2. IT Consultant
3. Network Engineer
4. Software Engineer

Complementing academic learning and workplace experience, learners can enhance their qualifications as they progress to degree with optional links to a selection of recognised industry certifications.

## Why choose this course?

This programme is ideal for learners wishing to pursue a career within technology and strategic solutions, who are looking to expand their skill set, advance to a higher level and build their knowledge in an area of specialism, all whilst gaining academic skills studying to degree level.

This programme allows eager learners to flourish under the teaching of experienced lecturers and academics, supporting their personal development to become the digital and technology leaders of tomorrow.

Throughout the programme, learners will be able to proactively implement their learning in real-life scenarios within their organisation using the hard-to-find and in-demand skill sets that they will develop within their area of specialism.

This programme has been awarded the Tech Industry Gold Accreditation by TechSkills, an organisation that brings together employers and universities to create highly skilled digital graduates.

## What is Professional Practice?

These are self-guided modules that allow learners to tailor the programme to the environment they work in. They are an opportunity to develop specialist leadership skills.

## Careers

The programme provides academic qualification and professional experience leading to a range of sector-leading roles as:

- Software Developer
- Network Engineer
- Data Analyst
- Systems Engineer
- Database Specialist
- IT Project Manager
- Software Tester

## 20% off-the-job (OTJ) training

During the apprenticeship, 20% of the learner's working hours should be spent on completing work/tasks contributing to the apprenticeship.

How exactly the 20% OTJ training is executed in real time will differ for each learner and each employer dependent on circumstances and needs, but in general it can include:

- Completing work on knowledge modules
- Completing work towards a professional qualification
- Shadowing or attending mentoring sessions
- Completing in-house training activities relevant to the programme
- Attending module workshops
- Coaching/mentoring
- Independent research

| BSc Digital and Technology Specialist | |
|---|---|
| Level | Level 6 – Bachelors degree |
| Degree | BSc (Hons) Digital and Technology Solutions |
| Degree awarding body | University of Roehampton |
| Apprenticeship standard | Digital and Technology Solutions (Integrated Degree) |
| Apprenticeship certificate | Awarded by ESFA |
| Tuition fee | Fully funded by employer through the Apprenticeship Levy* |
| Entry requirements | 2 A-levels, Level 3 Apprenticeship, or BTEC Extended Diploma in a similar subject |
| English and Maths requirements | Learners must be able to evidence Level 2, or equivalent, English and Maths before starting their End-Point Assessment |
| Mode of study | Part-time, blended and work-based learning |
| Duration | 36 months taught programme duration + up to 6 months for EPA and examination |
| Assessment methods | Coursework, presentations, work-based portfolio, Viva and group/individual projects including final End-Point Assessment |
| Start dates | October, January, April and July |
| Locations | Real-time live online learning |

*For eligible businesses (refer to page 26)

# LEVEL 4 MODULES

All modules are core and worth 20 credits.

## Technology in the Organisational Context

This module aims to develop core knowledge concerning technology and its application within organisations and serves to expose the complexity of issues when faced with rapidly developing technologies and the resultant impacts on business practice.

## Data Modelling & Database Design

Upon completion of the module, the learner will have a firm theoretical understanding of relational databases and a fundamental understanding for non-relational databases, be able to perform routine database administration tasks and query solutions for analysis on relational databases.

Moreover, theoretically and conceptually understanding of key features surrounding data security will be addressed.

## Data Communications & Network Security

This module will introduce the fundamentals of data communications and networks, covering network protocols and architectures. The module will also introduce learners to modern networking technologies, including protocol layering and network security measures.

## IT Project Management

The focus of this module is to facilitate a project management approach to establishing learning communities in the IT sector.

Learners will be enjoined to work effectively, both independently and as members of a project group; and to evaluate possible solutions to a problem by selecting the best approach.

The module also supports learners in managing and effectively documenting the activities involved in providing the selected solution to an IT problem.

## Software Engineering Fundamentals (2 terms)

This module is an introduction to the fundamentals of Software Engineering, covering the basics of programming and the systems development process. Taking an idea through initiation, analysis, design, build, test, implementation and support, to deliver value to the customer or business.

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## Professional Practice & Portfolio Development 1 (2 terms)

In this module, learners will develop self-guided skills and knowledge related to their professional development needs, and the context in which they are working. Digital Technology is a field in which professionals can find themselves working within a number of different contexts and specialisms, each requiring a specific skill set.

Professional Practice 1 is an opportunity for learners to tailor the learning conducted within Level 4 of the programme towards acquiring those skills and knowledge that will help them to develop towards becoming a Digital & Technology Solutions Professional.

**Optional Microsoft Azure Fundamentals certification (AZ-900)**

(This optional module is worth 0 credits, instead it results in a Microsoft certification)

- Learners benefit from access to Cloud Academy, our world-leading digital learning platform, to prepare for the Microsoft Azure Fundamentals (AZ-900) certification exam during their Professional Practice module.

# LEVEL 5 MODULES

All modules are worth 20 credits. Learners will study six modules at Level 5 comprising five core modules and one specialist module dependent on their chosen pathway specialism. These pathway specialism modules are on the following page.

### Business Systems & Processes

This module will initially explore the wider service management methodology that informs business systems and process development by both examining alternate standards and methodologies and expanding on key foundational areas. It will also explore and analyse the challenges of taking service management methodological theory and translating into 'real-world' operational service delivery.

### Cloud Solutions & Architectures (2 terms)

This module will help develop critical knowledge and skills required for the implementation and management of Cloud Solutions & Architectures. It will provide an introduction to Cloud Computing, before moving on to provide an analysis of business and architectural requirements for Cloud Solutions. The learner will explore topics that will aid with the creation of usable and scalable cloud-computing solutions that conform to industry best practice.

### Cyber Security

This module explores the concepts around Cyber Security, with a particular focus on risk analysis and mitigation. This includes understanding the vulnerabilities that can exist in systems, investigating how and why adversaries might attempt to utilise vulnerabilities to achieve their goals, and what mitigations can be put into place to reduce or eliminate such risks.

### Practical Data Analytics

This module looks at data architectures in the context of meeting the information requirements of an organisation. It focusses on the modelling and analysis levels in the data analytics hierarchy of needs. Learners will learn about bringing data together to form enterprise data warehouses and will also develop skills in data analytics, the results of which are intended to enrich the organisation with knowledge of both internal and, where appropriate, third-party behaviour which can, in turn, be used to drive strategy.

### Professional Practice & Portfolio Development 2 (2 terms)

Building on the learning undertaken in Professional Practice 1, learners will further develop self-guided skills and knowledge related to their professional development needs, and the context in which they are working.

This learning is applied and evaluated using appropriate reflective models, providing opportunities for learners to develop and add to their apprenticeship portfolio with the acquired skills and knowledge.

**Optional Microsoft certifications:**

(These optional modules are worth 0 credits, instead it results in a Microsoft certification)

- Data Analyst Specialism – Data Engineering on Microsoft Azure (DP-203)
- IT Consultant Specialism -Microsoft Azure Solutions Architect Expert (AZ-305)
- Network Engineer Specialism – Microsoft Azure Administrator (AZ-104)
- Software Engineer Specialism – Developing Solutions for Microsoft Azure (AZ-204)

# LEVEL 5 SPECIALISM SPECIFIC MODULES

Learners will study one from the modules below dependent on their specialism choice. All modules are worth 20 credits.

### Data Analyst Specialism: Principles of Data Science

This module aims to provide learners with key knowledge and skills relating to the principles of data science. Whilst overviewing the data science hierarchy of activities from data collection through to deep learning, the module concentrates on the machine learning level. Learners will learn about preparing data, applying machine learning algorithms and interpreting results.

### IT Consultant Specialism: Business & Delivering Change

This module seeks to develop theoretical and technical skills in business transformation within complex business environments. The learner will develop analytical skills and core knowledge around problem-solving techniques that enable businesses to adapt to environmental conditions.

In addition, the module seeks to encourage the application of these concepts in the work environment to develop professional practice.

### Network Engineer Specialism: Switching & Routing

This module will provide a broad range of knowledge in the application of planning, designing, configuring and supporting networks and their associated network devices and services found in modern networks.

Consideration will also be given to the different types of traffic found in these networks to ensure appropriate capabilities and security levels that are required in today's networks.

### Software Engineer Specialism: Software Engineering & Agile

This module will be the next step for those on the specialist Software Engineer path and will continue to relate developer skills with Systems Development concepts and tools.

The module will focus on the creation of nontrivial applications using an Agile approach and take a deeper look into the tools, techniques and roles that support the development process.

Learners will be given a first-hand experience of the incremental and iterative approaches most organisations are now utilising to develop their IT systems and products.

# LEVEL 6 MODULES

All modules are worth 20 credits unless otherwise stated. Learners will study six modules at Level 6 comprising five core modules and one specialist module dependent on their chosen pathway specialism. These pathway specialism modules are on the following page.

### Contemporary Issues in Digital Technology (2 terms)

This module is concerned with existing and emerging technologies and the challenges faced within an ever-changing technology landscape and the complexities surrounding how such technologies can be leveraged within an organisation.

### Developing Technology Strategy

This module will support learners to bring together skills and knowledge from modules at previous levels in order to develop a holistic technology strategy for their team, department, client or organisation. The module will also support learners to create successful technology strategies to deliver business value by considering business strategy, technical architecture, design and the financial business case.

### Practice Research Proposal (10 credits)

This module introduces learners to research methods and approaches to writing project proposals and dissertations. In addition, learners will establish an understanding of how research methods are implemented in technical business contexts. Further to this, the module will develop learner research skills and develop strategies to develop their knowledge and skills before applying these to their major project. This will improve outcomes for the Major Project module by enabling learners to clarify their planned research activities at an early stage.

### Professional Practice & Portfolio Development 3 (2 terms)

Further building on the learning undertaken in Professional Practice 2, learners will develop advanced self-guided skills and knowledge related to their professional development needs, and the context in which they are working.

This learning is applied and evaluated using appropriate reflective models, providing opportunities for learners to develop and add to their apprenticeship portfolio with the acquired skills and knowledge.

**Optional Microsoft certifications:**

(These optional modules are worth 0 credits, instead it results in a Microsoft certification)

- Microsoft Azure Security Technologies (AZ- 500) Prerequisite: Azure Fundamentals – AZ900 (Studied at L4)
- Microsoft Azure DevOps Solutions (AZ-400) Prerequisites: AZ104 & AZ-204 (1 of which studied at L5)
- Designing and Implementing a Data Science Solution on Azure (DP-100)
- Prerequisite: Azure Fundamentals – AZ900 (Studied at L4)
- Designing and Implementing a Microsoft Azure AI Solution (Preview) (AI-102)
- Prerequisite: Azure Fundamentals – AZ900 (Studied at L4)

### Major Project (Work based) (30 credits)

During the final year of the degree, learners are required to conduct a substantial piece of independent study and research, using sophisticated methods and tools. Learners are expected to work independently with guidance from their supervisor, and to develop a level of expertise in the area of research. The Major Project is expected to focus on a theme relevant to the specialism the learner is enrolled in.



# LEVEL 6 SPECIALISM SPECIFIC MODULES

Learners will study one from the modules below dependent on their specialism choice. All specialism modules are worth 20 credits.

### Data Analyst Specialism: Applied Data Modelling & Visualisation

This module considers applying data models and algorithms to data sets with the purpose of finding new insight or making predictions. Learners will source data within an organisational context and apply appropriate techniques to build models that identify potential opportunities or risks.

Data visualisation is the representation of data through graphs, charts and tables that allow people to see and understand patterns and trends. Learners will analyse large and complex data sets, and use a variety of software tools to be able to communicate metrics and results.

Through the use of effective visuals, learners will be able to present findings that are beneficial for making data-driven decisions.

### IT Consultant Specialism: Consulting

The purpose of this module is to introduce learners to modern theory and practice in consultancy, including professionalism, identification of problems and business needs, and implementation and taking action.

The module will focus on developing proficiencies in a range of skills and aptitude required to practice consulting in a technology context.

### Network Engineer Specialism: Advanced Network Design

The module will provide the knowledge and skills required to configure, troubleshoot and manage enterprise networks ensuring factors that may impact the performance, availability and security of network devices and services are considered.

Consideration will also be given to new emerging technologies and how they fit into the current landscape.

### Software Engineer Specialism: Software Engineering & DevOps

DevOps describes a culture and set of processes that brings development and operations teams together to complete software development. It allows organisations to create and improve products at a faster pace than they can with traditional software development approaches.

# QA DELIVERY
# DIGITAL BY DESIGN

QA's unique methodology, Digital by Design, is a blended approach to learning, which combines cutting-edge technology, engaging content, compelling design, and good old fashioned learning support to bring 'training' up to date for the digital age.

Its purpose is to create the best possible experience for learners, helping them to become deliver meaningful impact to your business, faster. This translates into greater success in their careers, and helps to futureproof organisations through digital transformation.

**Contact hours per module**

(The below is representative of standard 1-term modules. for 2-term modules, contact hours are reduced)

Contact hours change as learners progress through the programme and includes online workshops, seminars and other direct contact activities:

- Level 4 - 24 hours
- Level 5 - 18 hours
- Level 6 - 12 hours

**Approximate learner independent study time per module**

120 hours (varies per module and apprenticeship level.)

**Work-based learning time per module**

Learners spend 80% of their time in the programme on the job, actively applying what they've learned.

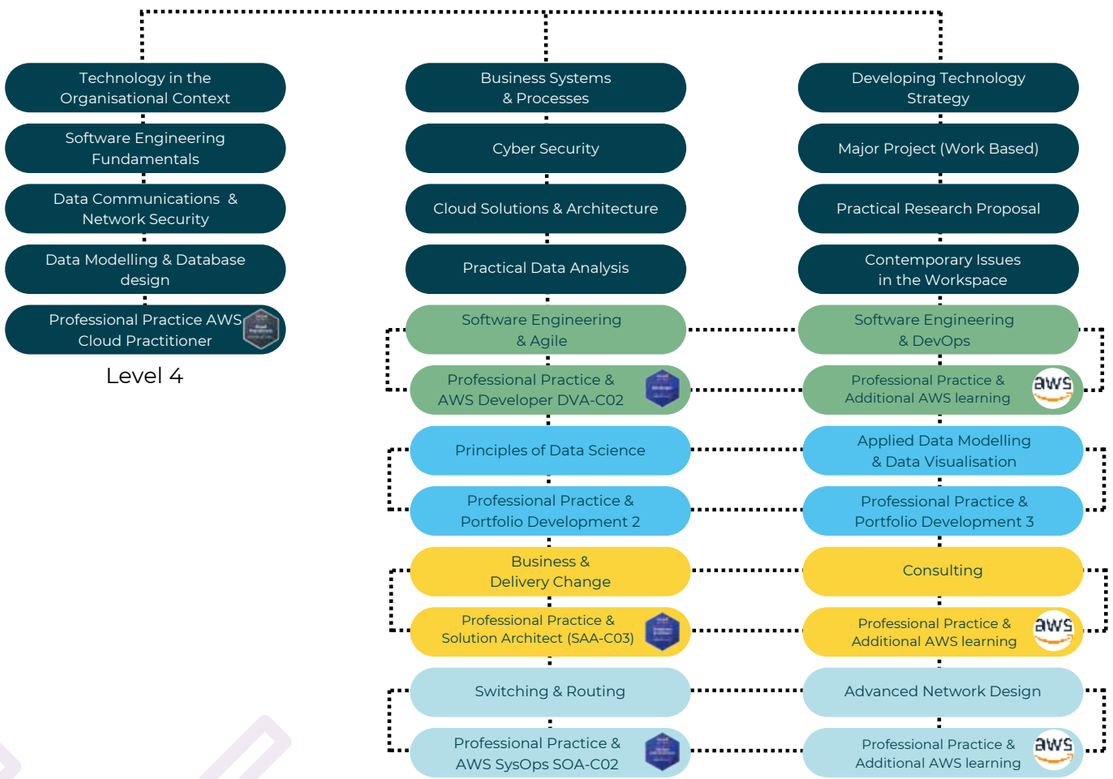
(Independent study time varies per module and apprenticeship level.)

# GET CERTIFIED

We're partnered with all the major vendors, and have built pathways for this programme which contain certifications from Microsoft, AWS, Google, Salesforce, and ServiceNow.

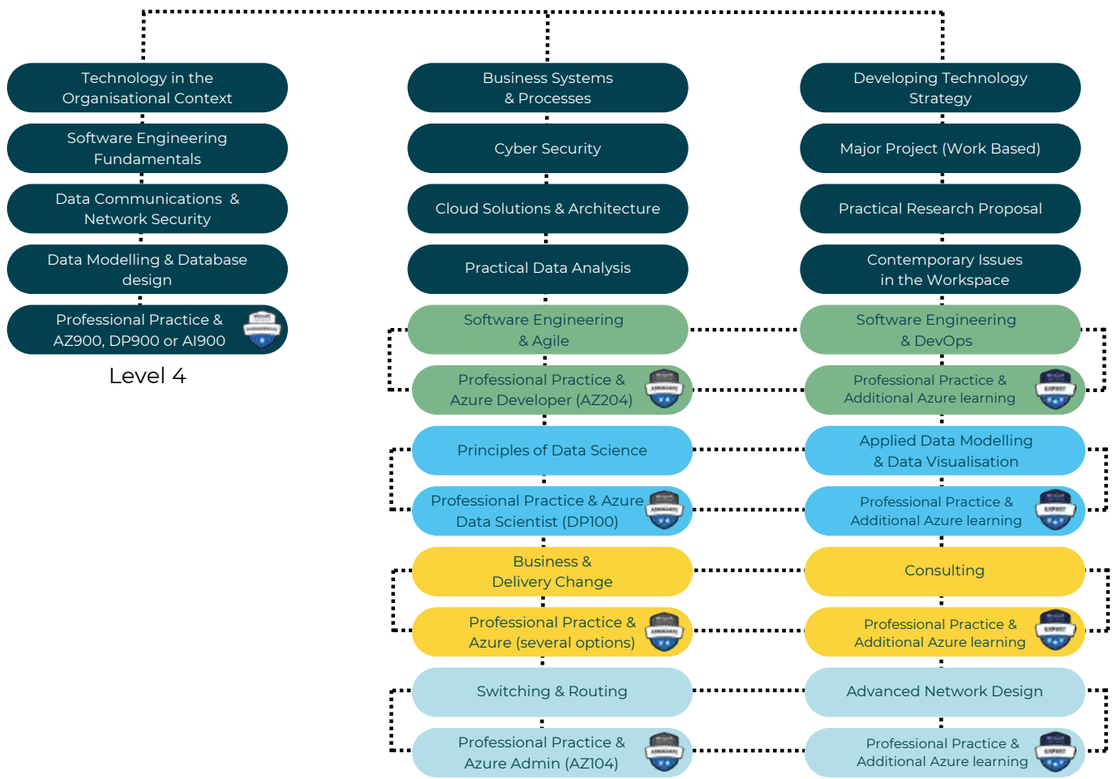
## BSC DIGITAL AND TECHNOLOGY SOLUTIONS

Enhanced via AWS training and certification.



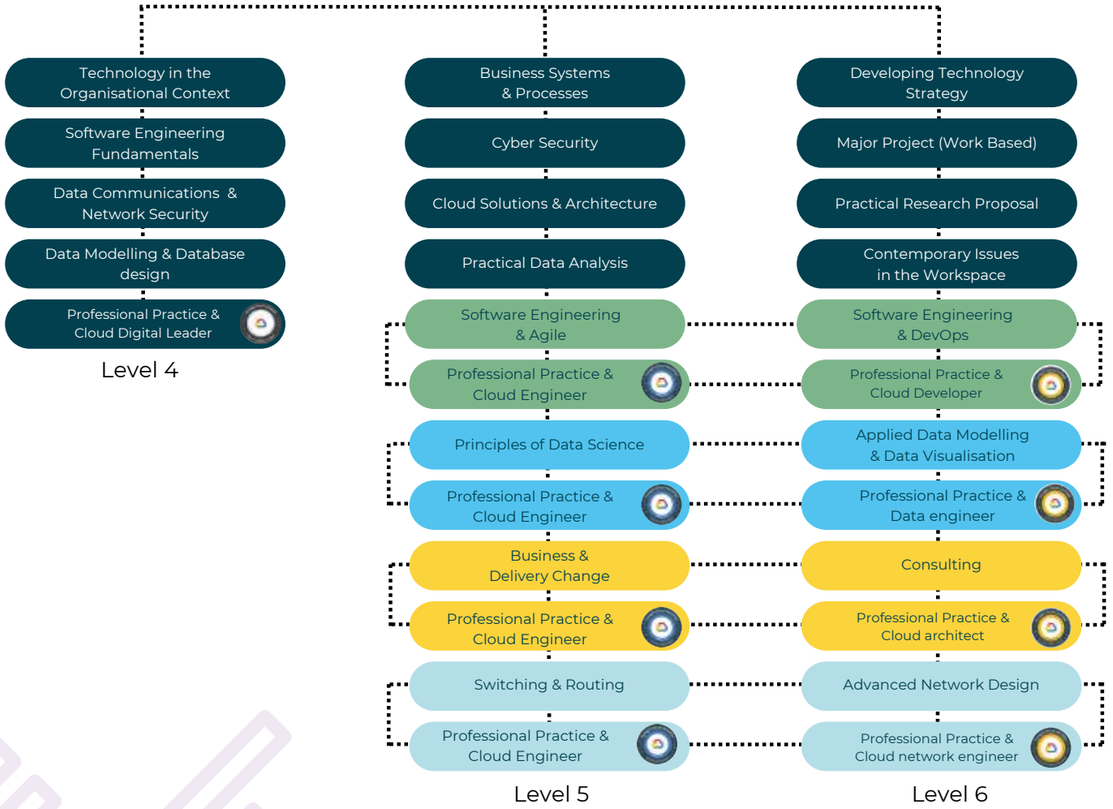

## BSC DIGITAL AND TECHNOLOGY SOLUTIONS

Enhanced via Microsoft Azure training and certification.



## BSC DIGITAL AND TECHNOLOGY SOLUTIONS

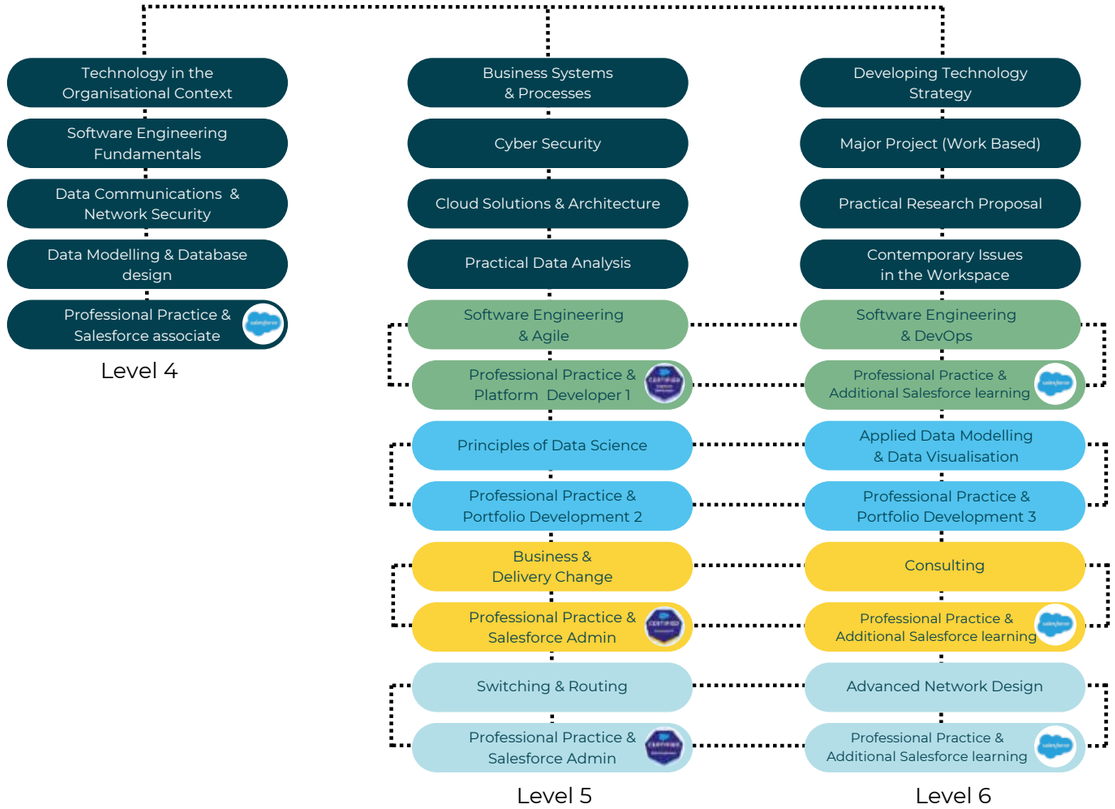
Enhanced via Google Cloud training and certification.






## BSC DIGITAL AND TECHNOLOGY SOLUTIONS

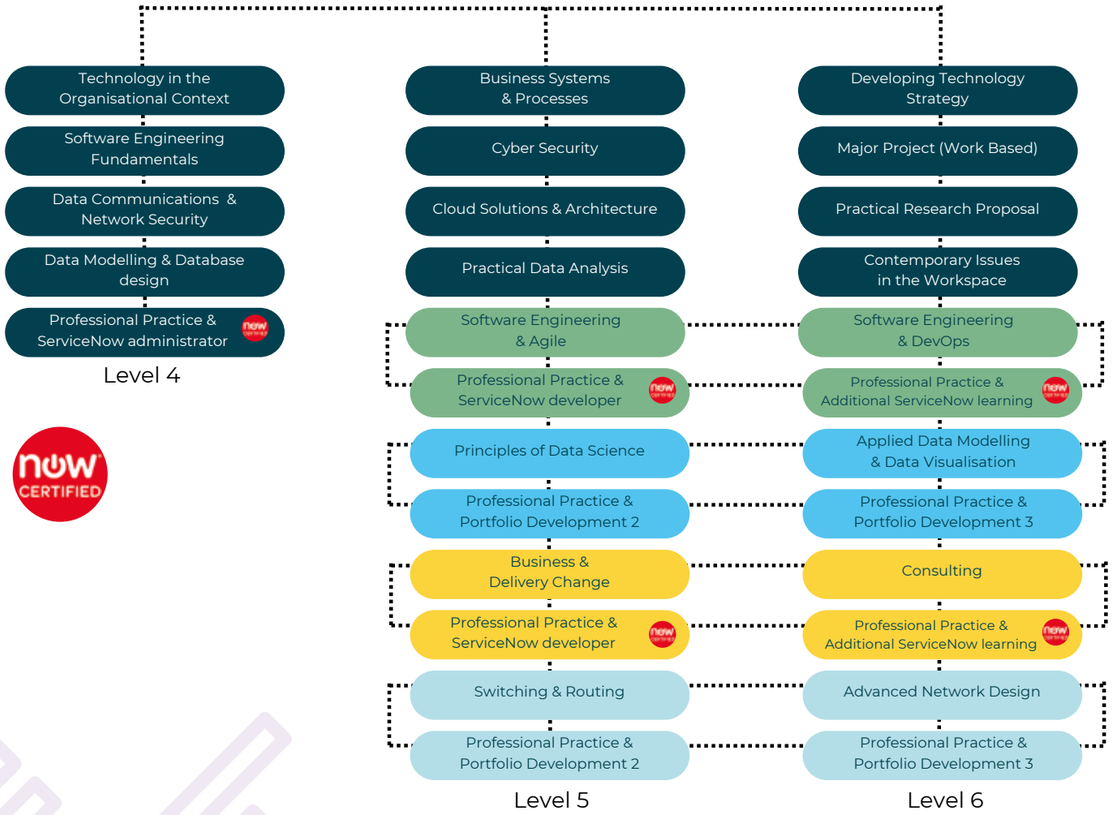
Enhanced via Salesforce training and certification.



## BSC DIGITAL AND TECHNOLOGY SOLUTIONS

servicenow

Enhanced via ServiceNow training and certification.



# ENTRY REQUIREMENTS

Admission onto a Degree Apprenticeship can only take place if applicants are currently employed and once their employer has a training agreement in place with QA.

Applicants must be employed in a relevant role, with the opportunity to apply theoretical concepts directly to their personal and professional work experience.

## Standard entry

To be eligible to study for this programme typically candidates will have achieved a Level 3 qualification in a relevant STEM subject. This may include 2 A Levels, BTEC, Diplomas, a related Level 3 Advanced Apprenticeship, or equivalent qualifications.

## Non-standard entry

Relevant qualifications and/or work experience will be taken into consideration where the applicant has the judged potential to benefit from the programme.

**For more information, visit:**

Degree Apprenticeships | QA

## English language and Maths requirements

Learners must be able to evidence Level 2, or equivalent, English and Maths before starting their End-Point Assessment.

Learners must not hold an existing qualification at the same or higher level than this apprenticeship in a similar subject.

# LEARNER SUPPORT

## The ACE Team

With its huge array of experience in providing guidance to learners, our highly qualified Academic Community of Excellence (ACE) Team, helps learners with writing in academic styles, reading smarter rather than longer, referencing and citing accurately and much more.

**Ace Team support:**

- One-to-one tutorials
- Online workshops
- Self-access learning materials

**Find out more:**

Degree Apprenticeships | QA

## Digital Learning Consultants

Throughout their degree apprenticeship, learners will be supported by one of our DLCs, who will help with supporting work-based learning activities, reviewing progress and helping them learners their End-Point Assessment which is the final stage of the degree apprenticeship programme.

## Workplace Mentors

A Workplace Mentor is appointed by the employer and is typically someone also employed within the business.

The Workplace Mentor will be familiar with the Apprenticeship programme and its workplace requirements.

They will facilitate the workplace learning opportunities to enable the learner to meet the requirements of the Apprenticeship standard.

# FEES AND FINANCE

There is no cost to the learner as a Degree apprentice. Degree and Higher Apprenticeships are fully funded by the Apprenticeship Levy through the learner's employer.*

**If you're an employer, the total funding for the programme is £27,000 for programmes commencing from September 2023**

**Travel expenses to travel to QA centres should be covered by the employer**

**All textbooks are provided free of charge as e-books. Any learners wishing to use paper copies will need to pay for these themselves**

## What about non-levy paying organisations?

Employers that do not accrue their own levy funds still have access to funding but in a different way. Employers are required to cover 5% of the negotiated price of delivery directly to the training provider.

This is often paid in single up front payment. Further conditions apply.

*For eligible businesses

# END-POINT ASSESSMENT (EPA)

## What is it?

End-Point Assessments (EPA) are designed to ensure a learner can prove they have the required knowledge and behaviours to demonstrate competency in their respective job role. EPA requirements are different for each standard. Each apprenticeship has its own assessment plan; details of each specific EPA are within the assessment plan.

EPAs can only start once the employer has agreed that the learner is consistently working at or above the level set out in the standard. This is a mandatory requirement of all apprenticeships along with the evidence of achievement of Level 2 in Maths and English (functional skills). This point is known as 'Gateway' and marks the end of the on-programme activities and the start of the EPA.

## Who is the End-Point Assessment Organisation (EPAO)?

The accredited End Point Assessment Organisation for this Degree Apprenticeship is the University of Roehampton.

## Who attends the EPA?

This will depend on what the assessment plan stipulates, it might only be the apprentice and the Independent Assessor (IA), it could include a number of IAs, the learner's manager, an industry expert and a representative from QA, (the DLC) and the University of Roehampton.

## What happens at the EPA?

Again, it depends on the assessment plan but it is common to see a presentation with Q&A, an interview, a professional discussion utilising a portfolio, and occasionally work tasks.

The assessment can take between one hour and two weeks, the assessment plan will provide further information.

EPAs for this Programme will take between 1.5 and 3 hours, in two sessions.

## Before completing their EPA, learners must have:

- Passed all the other required modules in this programme
- An agreement from their employer that they are ready for the EPA
- Completed the e-portfolio
- Achieved Level 2 English and Maths qualifications (if not already achieved)

# HOW TO APPLY

To apply for this or another Degree or Higher Apprenticeship course, please complete our enquiry form here: Degree Apprenticeships | QA

One of our account managers will be in touch to discuss your needs and to introduce the onboarding process.

Launch your employees on their learning journey and watch them soar.

## FOR MORE INFORMATION, PLEASE CONTACT

**0333 060 7701**
qa.com/contact

v1.1 NOVEMBER 2023 | VENDOR

This information is correct as of publishing in NOVEMBER 2023.

QA Ltd reserve the right to withdraw or change the programme included in this brochure. These changes will only be made as a result of UK legal on-going compliance with ESFA rules and guidance, compliance, minimum learner number requirements, changes to apprenticeship standard or for course validation reasons and applicants will be contacted at the earliest opportunity in the instance of these changes occurring. For the most up-to-date source of information, please visit our website.

Funded by Department for Education

Funded by Education & Skills Funding Agency

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Apprenticeships

SKILLS FOR LIFE