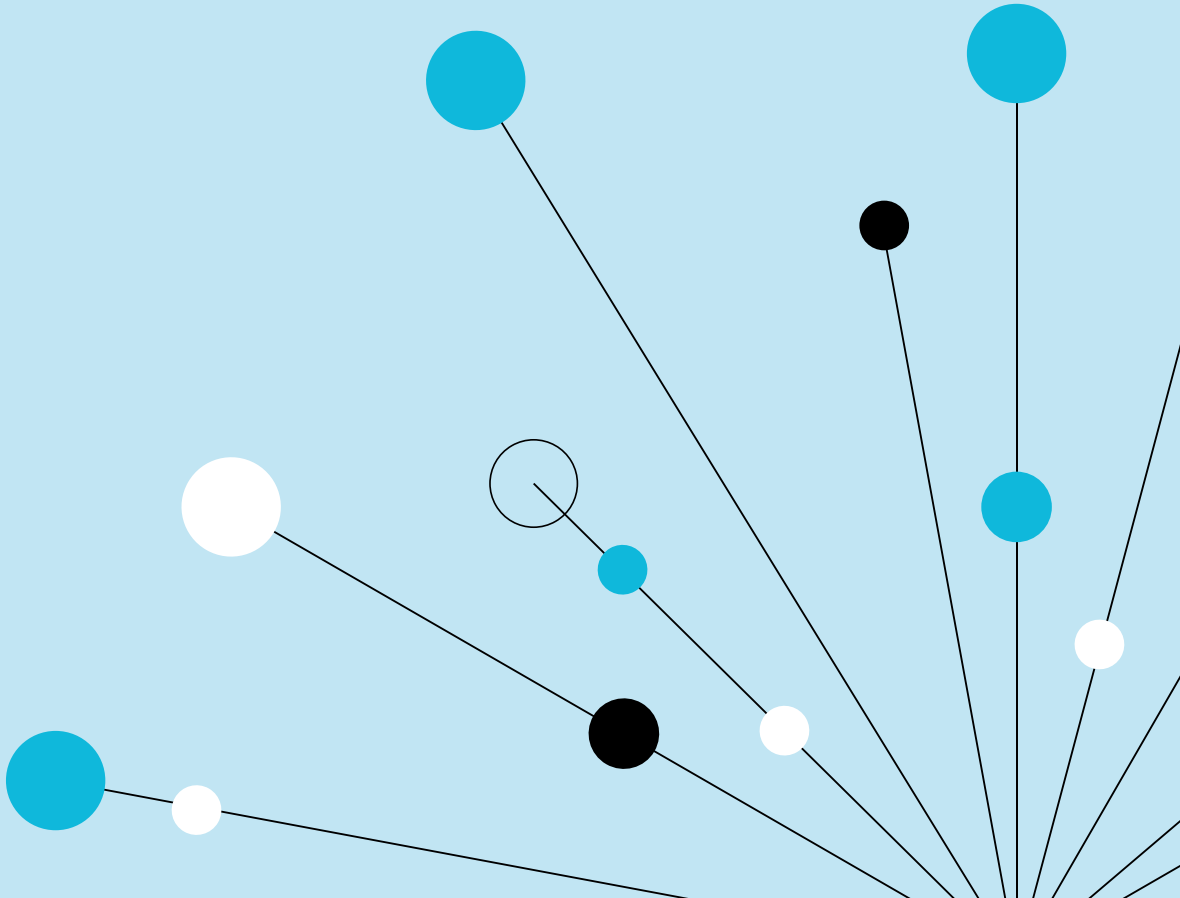
QA | In partnership with Northumbria University NEWCASTLE

Apprenticeships England

MSc Digital & Technology Specialist

Degree Apprenticeship

Programme Guide



QA.com

Why QA?

Endorsed by 4,000+ global clients, we are the leader in applied and cohort-based learning academies.

Today's biggest technological shifts are shaped by AI, cloud, and data.

In every technology revolution, there are winners and losers – and teams with applied skills make all the difference. We believe you can't change an organisation unless you change the capabilities of its people and ensure human and machine intelligence work together.

Success in numbers:

40+
Years of training experience

1,000+
AI, cloud & coding hands-on labs

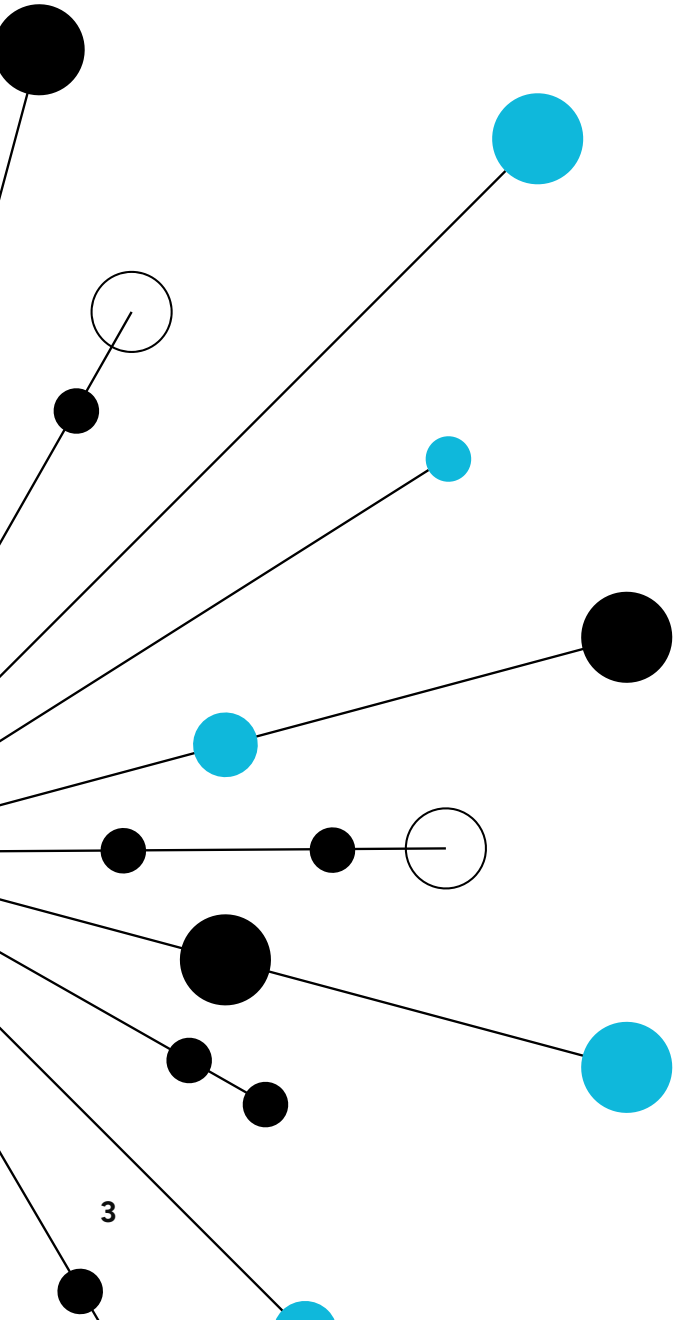
50,000+
Careers launched & accelerated

£500M+
Levy spend invested

20 days
Feedback time for submissions

6
Specialist learning pathways in MSc

Ready to explore how QA can support you?
Let's dive in!



Contents

Creating Change

Shape the next generation of technology leaders.

This programme develops adaptable digital professionals equipped to drive innovation within your organisation.

It builds an enduring foundation in critical thinking and problem-solving, exploring organisational and future development to deliver impactful, data-driven solutions aligned with strategic goals.

By fostering professional growth, adaptability, and collaboration, it empowers individuals to demonstrate leadership and excel in change management.

Our degree apprenticeships drive business results by enabling organisations to apply skills quickly, consistently, and at scale.

Digital Ambitions

Foster a learning culture that builds skills, expertise, and prepares for the future.

Proven Impact

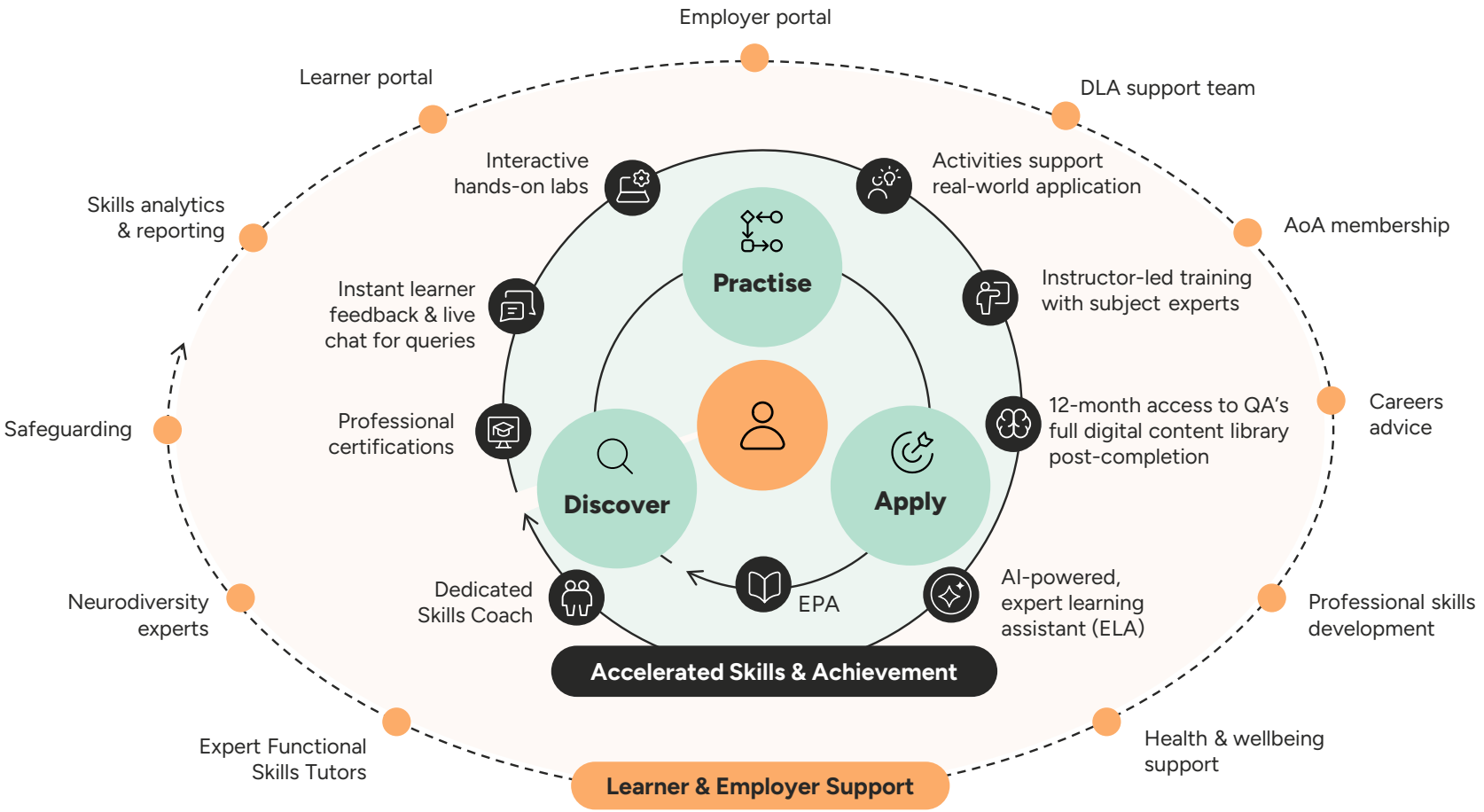
Our alumni drive impact at top companies like Accenture, BT, Vodafone, Cisco, and Cognizant.

Academic Excellence

In the Complete University Guide 2025, Northumbria ranks 34th in the UK.

Digital by Design

Our market-leading approach accelerates skill development by integrating technical study, academic learning, and on-the-job experience – ensuring **holistic** support for both learners and employers.



Discover

Leveraging QA's learning platform, learners follow a development path focused on their job role.

Practise

Learners join instructor-led sessions, practise skills in hands-on, risk-free labs, and collaborate with peers.

Apply

Learnings are applied on the job through work-based activities at key stages, supported and reviewed by specialist skills coaches.

Programme Overview

Details of standard: MSc Digital & Technology Specialist

Total cost: £21,000

Programme duration: 27 months

Live instructor sessions: 19 days

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Northumbria University is a research-driven, business-focused institution with a global reputation for academic excellence.

Tailor the MSc programme to align with career goals and organisational needs for a clear pathway to success.

Specialist Pathways

- Data & Analytics
- Digital Business & Enterprise Architecture
- Cyber Security
- Software Engineering
- IT Ops Management (Cloud Computing)
- IT & Digital Futures (DevOps)

Experience QA's self-paced learning platform with interactive labs and configurable learning.

Learner Journey

The Digital & Technology Specialist programme offers certification from leading technology vendors.

This degree apprenticeship integrates live and online workshops with self-paced learning, employing a guided discovery approach for individual learner contexts.

It uses research-informed methods to help learners translate theoretical knowledge into practical skills.

Learners are assigned a Skills Coach for personalised coaching and support. These specialists ensure their successful progress, wellbeing, and readiness for assessments.

ACE Team

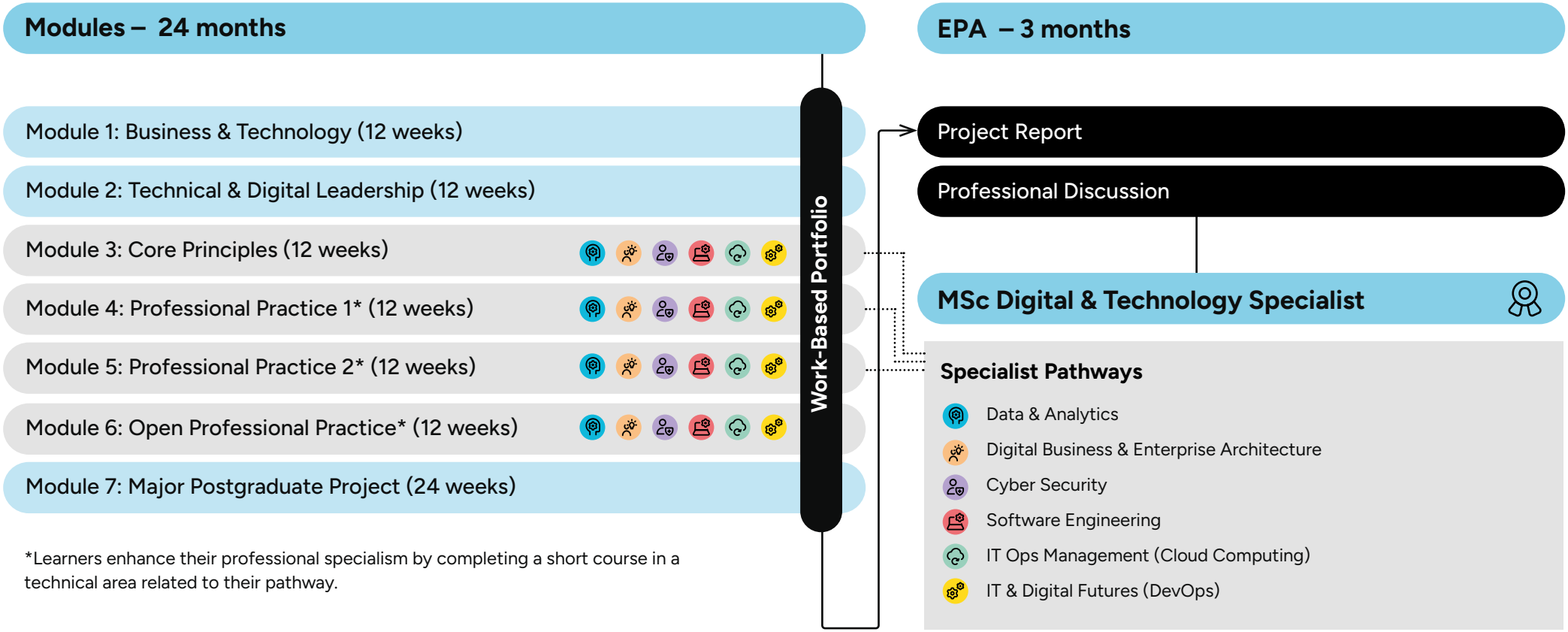
Our Academic Community of Excellence (ACE) team support learners with writing styles, reading strategies, referencing, and more.

Office Hours

Personalised time with tutors to discuss course material, assignments, and academic guidance.

Learners can access Northumbria University Library – all essential and recommended readings are provided free of charge as e-books.

Enhance the learner journey with industry-recognised certifications, vendor training, and access to the QA learning platform.



*Learners enhance their professional specialism by completing a short course in a technical area related to their pathway.

Entry Criteria

Standard Entry

- 2:2 (second class) honours degree in an appropriate Computing, Technology, or Engineering discipline

Non-Standard Entry

- Relevant qualifications and/or work experience will be considered for applicants with potential to benefit from the programme

Modules

Following each module, learners apply their newly acquired knowledge and skills to ongoing work projects.

01

Module 1:
Business & Technology

Develops critical knowledge and skills for managing business innovation, grounded in contemporary academic research and best practice.

A technology-agnostic approach facilitates the exploration of tools and methods applicable to diverse organisational contexts. It focuses on analysing, implementing, and refining innovation strategies to align with IT specialisms and the broader business ecosystem.

Topics:

- The Importance of Technological Innovation
- Types & Patterns of Innovation
- Supporting Innovative Technology & IT Capability
- The Business Value of Technology Innovation
- Developing Innovation Capability
- Creating an Innovative Technology or IT Strategy
- The Relationship between Innovation Deployment & Business
- Academic Writing & Planning

Live Instructor Sessions: 4 Days
(8 Half-Day Workshops)

02

Module 2:
Technical & Digital Leadership

Equips future leaders with essential skills to address challenges in complex, tech-driven environments – focusing on strategic technology management, optimising team capabilities, and driving business performance in the digital age.

Topics:

- Introduction to Digital Transformation
- Business Models & Role of Data
- Experimentation & Value Proposition
- Strategic Response to Digital Disruption
- Leadership Skills & Dealing with Uncertainty
- Capturing Business Value
- Creating Social Value
- Personal development

Live Instructor Sessions: 4 Days
(8 Half-Day Workshops)

03 Module 3:
Specialist Pathway

Data & Analytics

Data & Analytics Principles

Develops expertise in scalable data management, advanced analytics, and modern architecture solutions, while ensuring compliance with legal, ethical, and social standards, empowering organisations to leverage data for strategic decision-making.

Topics:

- Data & Analytics Overview
- Data Science Ecosystem
- Machine Learning – Regression, Neural Networks, Decision Trees
- Machine Learning – Anomaly Detection, Association Rule Mining
- Data Visualisation
- Big Data Processing
- Non-relational Databases
- Web and Text Mining
- Ethical and Legal Aspects

Digital Business & Enterprise Architecture

Enterprise Architecture Principles

Builds expertise to design, integrate, and optimise digital solutions that align with business strategy, enhancing organisational resilience, agility, and innovation in an ever-evolving digital landscape, while ensuring robust technical architecture.

Topics:

- Business Resilience & Requirements
- Strategic Alignment of IT Architecture & Business Goals
- IT Governance & Evaluation of Digital Transformation Initiatives
- Enterprise Architecture Standards & Tools
- Business & Information Processes
- Application & Data Management Architecture
- Infrastructure & Platform Design
- Implementation & Optimisation of Architecture Solutions

Cyber Security

Cyber Security Principles

Equips expertise to identify, mitigate, and prevent cyber threats through secure system design, risk-aware strategies, and effective implementation of security controls in dynamic digital environments.

Topics:

- Security, Risk Management & Compliance
- Cryptography
- Network Security
- Identity & Access Management
- Security Assessment & Testing
- Software Development Security
- Cloud Security
- Digital Forensics
- Security Operations
- Threat Intelligence

Live Instructor Sessions: 4 Days
(8 Half-Day Workshops)

03 Module 3:
Specialist Pathway

Software Engineering

Software Engineering Principles

Cultivates expertise to design, develop, and manage software systems, emphasising agile methods, modular architectures, and secure development, and scalable solutions aligned with organisational objectives.

Topics:

- Introduction to Software Engineering
- Software Process Models
- Agile Software Development
- Requirements Engineering
- Architectural Modelling
- System Modelling & UML
- Implementation & Testing
- Software Evolution & Managing Software Projects

IT Ops Management (Cloud Computing)

Cloud Operations Principles

Develops expertise in managing IT-enabled operations with a focus on cloud computing, virtualisation, resource management, and security, while aligning with business strategies to optimise IT infrastructure and support operational goals.

Topics:

- Introduction to Cloud Computing
- Cloud Platform Services
- Scalable Solutions - Best Practice & Security Principles
- Moving Databases to the Cloud
- Open-Source-Cloud Architectures & HPC
- Cloud-Services Brokerage & Multi-Cloud
- Cloud-Migrations & Maturity
- IT Operations, Asset & Supply Chain Management

IT & Digital Futures (DevOps)

DevOps Principles

Develops expertise in DevOps methodologies, digital transformation, and technology integration, focusing on agile development, cloud infrastructure, automation, and continuous deployment to enhance business efficiency in a digital landscape.

Topics:

- Foundations of DevOps
- DevOps & Cultural Change
- DevOps Readiness
- Automation in DevOps
- Eliminating Waste in DevOps
- Measurement & Metrics in DevOps
- Sharing & Collaboration in DevOps
- The State of DevOps

Live Instructor Sessions: 4 Days
(8 Half-Day Workshops)

04

Module 4 :
Professional Practice 1

Enhances professional growth through self-guided learning, reflective models, and skills development. It emphasises the composite professional development, planning, professional bodies, and ethics.

Topics:

- The Composite Professional
- Reflection for the Technology Professional
- Professional Practice & Career Development
- Professional Development Planning
- Professional Bodies
- Professionalism & Ethics
- Legal Aspects

Live Instructor Sessions: 2 Days
(4 Half-Day Workshops)

05

Module 5:
Professional Practice 2

Enhances professional growth through self-guided learning, reflective models, and skills development. It emphasises contemporary issues, interpersonal skills and innovation.

Topics:

- Further Reflection for the Technology Professional
- Contemporary Challenges & Solutions
- Interpersonal Skills
- Entrepreneurship & Innovation
- Diversity

Live Instructor Sessions: 2 Days
(4 Half-Day Workshops)

06

Module 6:
Open Professional Practice

Enhances professional growth through self-guided learning, reflective models, and skills development. It emphasises understanding self and others, teamwork, and leadership.

Topics:

- The Future Professional
- Reflection
- Continuous Professional Development & Career Planning
- Technological Landscape
- Legal Issues
- Understanding Self & Others
- Teamworking
- Leadership Skills

Live Instructor Sessions: 2 Days
(4 Half-Day Workshops)

Learners develop professional specialism by taking a short course in a technical area relating to pathway and will apply the learning back into the workplace.

07

Module 7:
Major Postgraduate Project

A key part of the MSc and End-Point Assessment (EPA) is an applied research project.

It requires investigating an organisation-relevant area and employing advanced techniques to develop a product or process addressing a business challenge.

The project report includes a literature review, methodology, practical work, and an evaluation of the developed solution.

Topics:

- Conducting Research in Organisations
- Selecting a Project
- Writing Your Proposal
- Managing Research Projects: Planning, Risk & Ethics
- Performing a Literature Review
- Methodologies for Research and Development
- Analysis, Presentation & Discussion of Findings
- Drawing Conclusions & Links to Future Work

Live Instructor Sessions: 1 Day
(4x 1.5-hour seminars & 8 hours of supervisory sessions)

Tools and Technologies

Data & Analytics
- Power BI
- Python
- R
- Microsoft Excel

Enterprise Architecture
- Theory-based

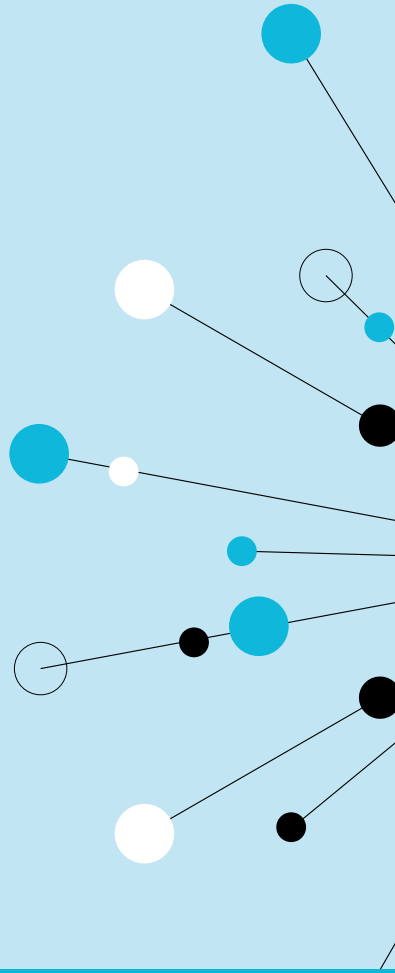
Cyber Security
- CyberChef
- Shodan

Software Engineering
- Theory-based

Cloud Computing
- Gantt Project
- Microsoft Excel
- Microsoft Azure Icons
- AWS Icons
- GCP Icons

DevOps
- Theory-based

Professional Practice
- Microsoft Office
- CPD based tools



End-Point-Assessment

We ensure all learners are fully prepared for their End-Point-Assessment (EPA) through our internal gateway process, maximising their success rates.

Assessment criteria:

01

Knowledge
Ability to convey knowledge effectively.

02

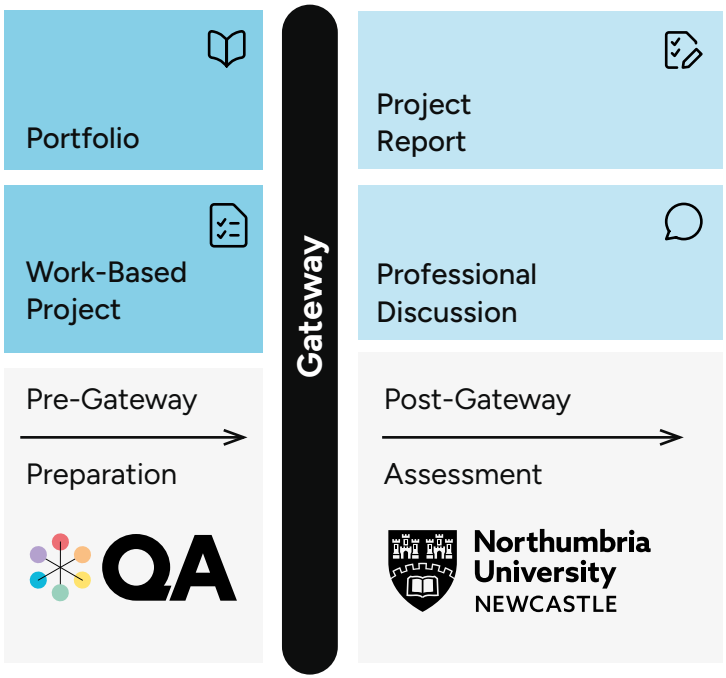
Skills
Demonstrate practical skills with confidence.

03

Behaviour
Exhibit professional workplace behaviour.

Explore the detailed assessment criteria withing the **Digital & Technology Specialist standard**.

EPA process:



Project Report with Presentation: Prepare a project report, demonstrate achievements and knowledge, and participate in a Q&A.

Professional Discussion:
Engage in a formal two-way conversation to showcase knowledge, skills, and behaviours.

Ready to partner with us?

Let's talk:

0113 220 7150

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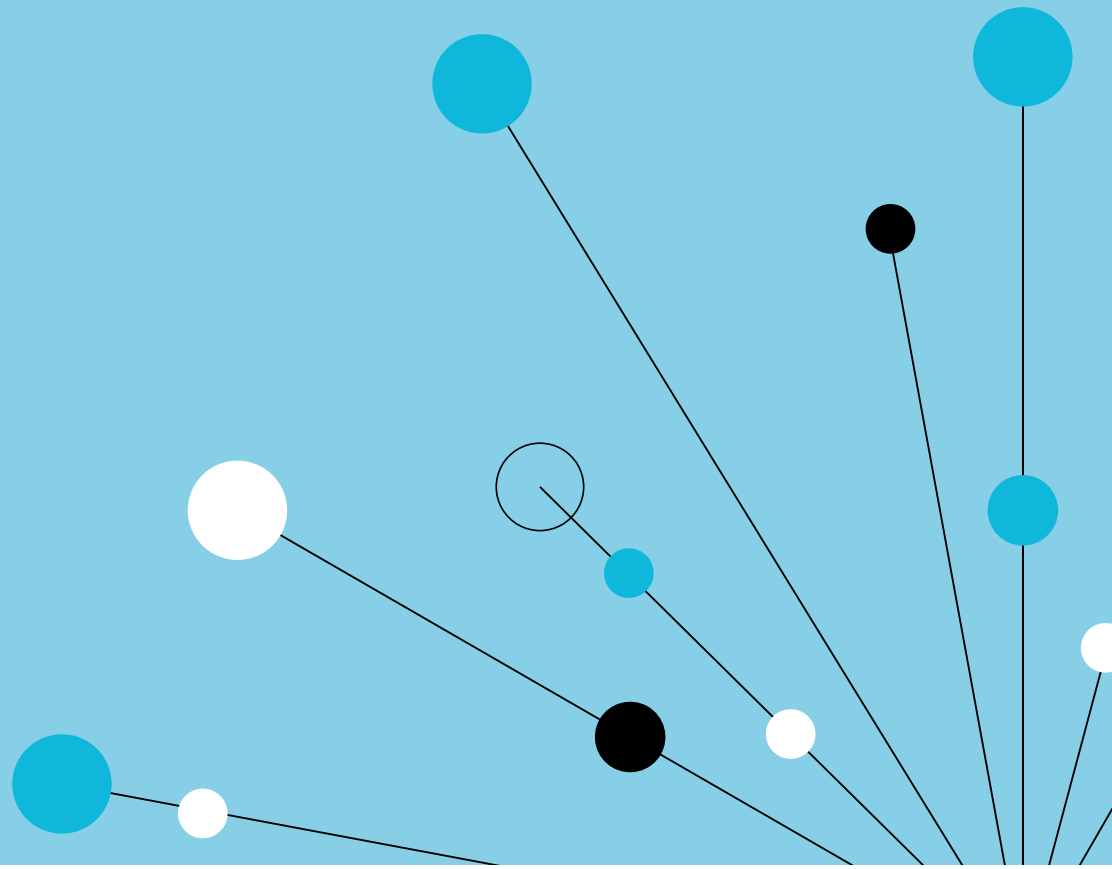

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