Apprenticeship Programme Guide

ARTIFICIAL INTELLIGENCE (AI) DATA SPECIALIST

Higher Apprenticeship

Apprenticeship standard:
Level 7 Artificial Intelligence (AI) Data Specialist

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

Artificial Intelligence solutions are continuing to become more engrained in our lives.

The Level 7 Artificial Intelligence (AI) Data Specialist Higher Apprenticeship programme is designed to enable learners to develop a deep technical knowledge that allows the discovery and creation of these new data-driven AI solutions.

These solutions should help to automate and optimise business processes and to support, augment and enhance human decision-making.

Personal and professional development will be facilitated through a structured programme and supported by a range of learning and work-based experiences. This will enable learners and embark on a programme designed for a career leading or working within an AI data context.

Why choose this course?

AI Data Specialists carry out applied research to create innovative data-driven AI solutions to business problems within the constraints of specific business contexts.

Through this programme learners will be equipped with the skills to work in a range of Machine Learning and AI jobs.

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 AI skills.

Careers

The programme prepares learners for careers in roles including, but not limited to:

- AI Strategy Manager
- AI Engineer
- AI Specialist
- Director of AI
- Machine Learning Engineer
- Machine Learning Specialist

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

Artificial Intelligence (AI) Data Specialist	
Level	Level 7 - Higher Apprenticeship
Award	Artificial Intelligence (AI) Data Specialist Higher Apprenticeship
Apprenticeship standard	Level 7 Artificial Intelligence (AI) Data Specialist
Apprenticeship certificate	Awarded by ESFA
Tuition fee	Fully funded by employer through the Apprenticeship Levy[1]
Entry requirements	Honours degree (2:2 or above), in a related subject
English language and Maths requirements	Level 2 English and Maths required to complete apprenticeship
Mode of study	Part-time, blended and work-based learning
Duration	15 months + End Point Assessment (EPA) (typically 6 months)
Assessment methods	Coursework including research-informed assignments and work-based projects, weekly quizzes, End Point Assessment
Start date	October, January, April, July
Locations	Real-time live online learning[2]

For eligible businesses (refer to page 8)

[2]Face-to-face learning dependent upon learner numbers and location. Visit the webpage or enquire for more information.

LEVEL 7 MODULES

All modules are core.

Programming for Artificial Intelligence

In this module, you will gain knowledge and practical experience, including skills, which will enable you to understand the statistical methods and programming knowledge surrounding Artificial Intelligence and Data Science. The module combines both theoretical and practical application approaches, enhancing the skills required to engage in Data Science problems in current and realistic business environments.

The module additionally develops programming skills within the R similar statistical framework, to aid in an effective and efficient statistical data analysis setting.

AI and Digital Innovation

This module will provide a general introduction of Artificial Intelligence (AI) and digital innovation that centre on organisational examples such as business finance, health, and energy. Successfully completing the module will provide you with an understanding of the application of AI and its role in digital innovation that illustrates various real-world applications of the use of AI tools.

A range of techniques will be examined to understand which tools are appropriate during the design, piloting and testing of solutions. Digital innovation methods will be applied to identify potential gaps where AI or data analytics techniques may be appropriate and what factors influence the effective use of the tools.

Data Science Principles

Data Science is about using data to create knowledge which will advance business or society. Its subject area comprises an intersection of mathematics/statistics, computing and organisation knowledge and as such is broad.

In this module we overview all areas within data science, investigating the theory and also apply data science methods to practical problem-solving. You will learn how to analyse an organisation's data assets, create data-driven project ideas that advance an organisation's knowledge base, and how to implement such projects.

Machine Learning Using Cloud Computing

In this module you will develop knowledge and skills that will enable you to tackle a realistic machine learning problem, using advanced machine learning techniques. You will also learn how to implement machine learning based solutions using the cloud and how to evaluate their performance.

The main topics covered in this module include: supervised, unsupervised and reinforcement learning; optimisation techniques; ensemble techniques; scalable infrastructures; high-performance architecture; and cloud services and platforms for AI.

AI and Data Science Professional Practice

A key element of your journey towards becoming an AI Data Specialist is your ongoing skills development. This module requires you to engage in a recognised CPD programme and reflect upon how such learning can be embedded back into the workplace. To enable this we will consider the following areas:

- Identification of a relevant skills need and subsequent CPD programme, embedded into your module delivery
- Design and presentation of a Professional Practice Log using appropriate reflective framework
- Strategies to embed learning from your CPD into practice

Disruptive Leadership for Sustainable Strategy

This module is about the development of practical skills and techniques required by businesses to help them in developing a sustainable strategy. In this module, you will develop knowledge and skills in disruptive leadership skills, apply them and critically analyse how innovation in its various forms affect business competitiveness.

Disruptive leadership strategies and techniques are examined and developed in the context of rapid, innovative and radical change through AI and related technologies that are impacting industry ecosystems.

ENTRY REQUIREMENTS

Admission onto a Higher or 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:

- Applicants will usually have obtained an honours degree (2:2 or above) in an appropriate discipline, or with the appropriate aptitude for a role in technology.

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. Requests will be considered on an individual basis where appropriate.

English language and Maths requirements

- Learners must be able to evidence English and Maths at Level 2, or equivalent, in order to begin the EPA and complete the apprenticeship.

QA DELIVERY MODEL

Our Higher and Degree Apprenticeship delivery methods focus on combining part-time study with work-based learning – providing learners with the right skill sets to advance their careers.

Throughout the programme, learners are also supported by an individual Skills Coach, who helps with applying learning to the workplace. Our Academic Community of Excellence (ACE) Team is also available to help on academic matters outside of the classroom.

Contact hours per module

18 hours of virtual sessions, distributed across the module

Approximate learner independent study time per module

200 hours:

Each module requires 200 notional hours of effort including workshop contact hours, ACE Team support and on the job training as well as self-study time

Work-based learning time per module

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

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.
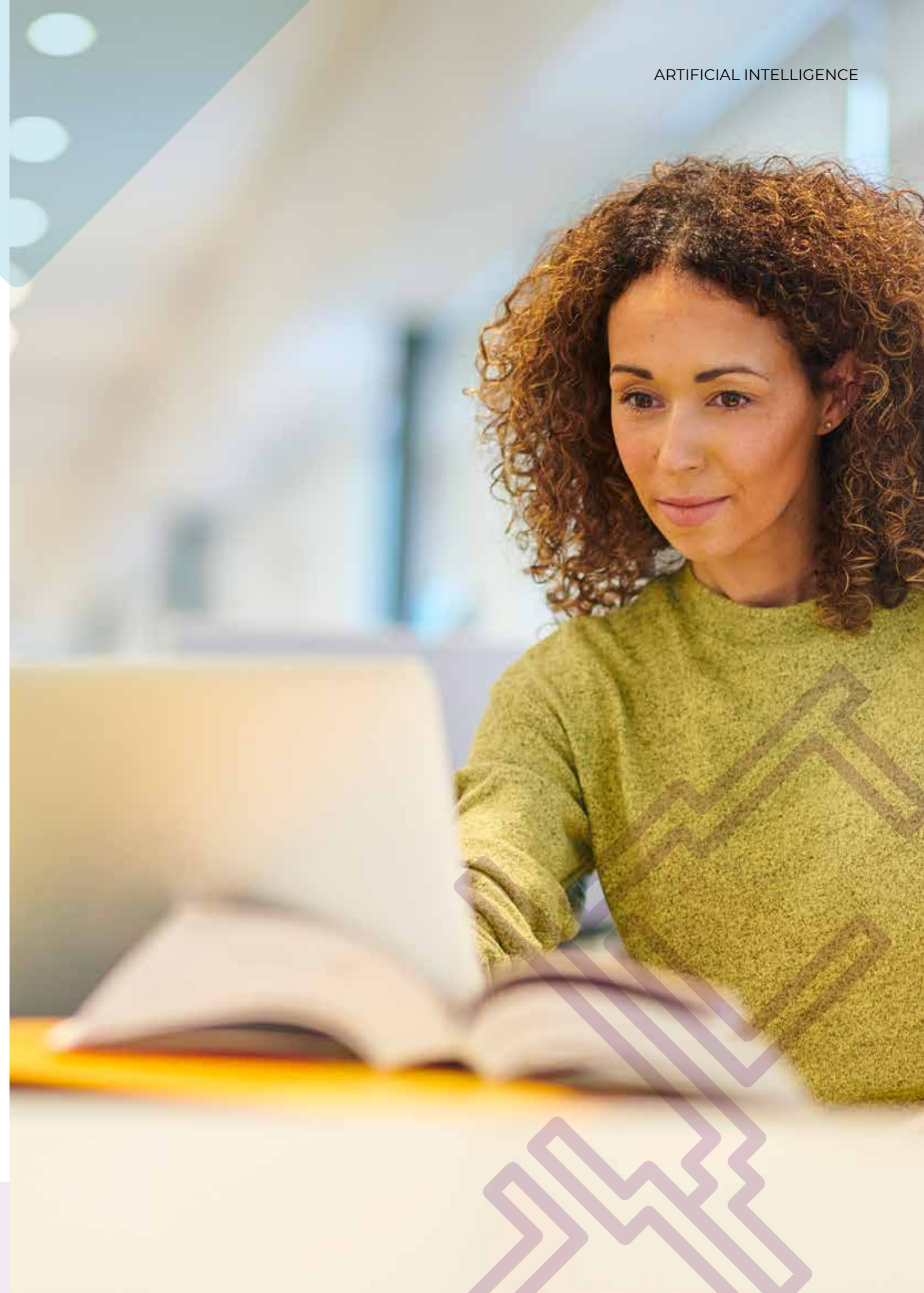
Workplace Mentors

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 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.

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 and occasionally work tasks.

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

Before completing their EPA, learners must have:

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

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Department for Education

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Apprenticeships

SKILLS FOR LIFE