



DevOps Engineer L4 Curriculum

This is an overview of the DevOps Engineer Level 4 curriculum. We want to work with you to develop a bespoke learning plan to enable us to deliver the knowledge in a logical sequence.

We will complete an initial assessment, skill scan and math and English assessment to determine the needs of the apprentices. Our aim is for the apprenticeship programme to have a positive impact for you and for the apprentice so that they receive a great learning experience.

This plan is fully adaptable to support those with special educational needs or disabilities.

What is the DevOps Engineer Role?

The role of DevOps engineer brings together the development of software and the ability to support the result in a live environment.

DevOps engineers help to bridge the gap between those who develop software and those who are then tasked with supporting it in a live environment. The DevOps approach requires engineers to not only understand the development phase and how their code functions, but also to be a part of the release and continual iteration phases of a product.

The occupation requires an agile approach with other members. These members may include IT and business colleagues, as well as 3rd -party suppliers.

Overall, DevOps engineers will be responsible for working collaboratively with other colleagues and departments with minimal direct supervision. This working format requires engineers to have a thorough understanding of a broad range of technical work activities. DevOps engineers will also apply their knowledge to both routine and non-routine problems.

Who is this for?

The roles associated with this role can vary but typical job titles include:

- DevOps Engineer
- Full Stack Developer
- Infrastructure Engineer
- Automation Engineer

Delivery

The delivery of this apprenticeship will include:

- One to one support on a monthly basis from your Trainer
- Regular sessions with your trainer to develop the knowledge, skills and behaviours of the standard.
- All apprentices will have access to an e-portfolio.
- Maths and English functional skills training – If required depending on GCSE results.

Duration

- The duration of the Level 4 DevOps Engineer Apprenticeship will typically take 28 months to complete.
- The learning phase in the first 24 months is known as being 'On Programme' this is where the Knowledge, Skills and Behaviours required for the standard will be developed.
- The final 4 months of the apprenticeship will be the completion of the 'End-Point Assessment' phase.



What is covered in DevOps Engineer Standard



Occupational Duties

- Script and code in at least one general purpose language and at least one domain-specific language to orchestrate infrastructure, follow test driven development and ensure appropriate test coverage.
- Initiate and facilitate knowledge sharing and technical collaboration with teams and individuals, with a focus on supporting development of team members
- Engage in productive pair/mob programming to underpin the practice of peer review.
- Work as part of an agile team, and explore new ways of working, rapidly responding to changing user needs and with a relentless focus on the user experience. Understand the importance of continual improvement within a blameless culture.
- Build and operate a Continuous Integration (CI) capability, employing version control of source code and related artefacts

- Implement and improve release automation & orchestration, often using Application Programming Interfaces (API), as part of a continuous delivery and continuous deployment pipeline, ensuring that team(s) are able to deploy new code rapidly and safely.
- Provision cloud infrastructure using APIs, continually improve infrastructure-as-code, considering use of industry leading technologies as they become available (e.g. Serverless, Containers).
- Evolve and define architecture, utilising the knowledge and experience of the team to design in an optimal user experience, scalability, security, high availability and optimal performance.
- Apply leading security practices throughout the Software Development Lifecycle (SDLC).
- Implement a good coverage of monitoring (metrics, logs), ensuring that alerts are visible, tuneable and actionable.
- Keep up with cutting edge by committing to continual training and development – utilise web resources for self-learning; horizon scanning; active membership of professional bodies such as Meetup Groups; subscribe to relevant publications.
- Look to automate any manual tasks that are repeated, often using APIs.
- Accept ownership of changes; embody the DevOps culture of 'you build it, you run it', with a relentless focus on the user experience.

Knowledge & Skills

Develop a range of skills and knowledge, where they will 'apply' what they have learned at work.

Including:

- DevOps and Methodologies
- Coding Fundamentals
- Networking and Security
- Linux & DevOps Tools
- DevOps Infrastructure
- Cloud security issues



Gateway and End Point Assessment

Once all the duties have been completed, maths and English achieved and the portfolio of evidence is finished, the apprentice, employer and Basingstoke ITEC will make the decision to progress to the End-Point Assessment.

Apprentices will enter a period called 'Gateway' they will be prepped and supported by Basingstoke ITEC for each stage of their End-Point Assessment.

End-Point Assessment



Workplace Project Proposal



ASSESSMENT METHOD 1
Work-based project and practical assessment



Portfolio
Full evidence of knowledge, skills and Behaviours



ASSESSMENT METHOD 2
Professional Discussion

GATEWAY

PRE GATEWAY

POST GATEWAY

Progression Opportunities

On completion of the Level 4 DevOps Engineer Apprenticeship, there is the opportunity for progression, depending on your job role.

What will apprentices gain upon completion?

- Level 4 DevOps Engineer Apprenticeship – Pass / Merit or Distinction grade
- Level 2 Functional Skills in Maths (if required)
- Level 2 Functional Skills in English (if required)

Learner Journey – Delivery Process

1 - 3

4 - 8

9 - 13

14 - 19

20 - 24

25 - 28

months

Induction

Development of Knowledge, Skills and Behaviours for standard

EPA Prep

Develop showcase portfolio for assessment

End Point Assessment

Maths and English Functional Skills (If Required)

Regular trainer sessions and workshops – face to face and remote

Feedback