

CIVIL ENGINEERING TECHNICIAN APPRENTICESHIP STANDARD

Standard Code ST0091
Course Level 3
Day Release
Location: Lincoln
Funding Level £12000
Duration 39mths including EPA

Course Description

A Civil Engineering Technician provides technical support to engineers and other construction professionals in the design, development, construction, commissioning, decommissioning, operation or maintenance of the built environment and infrastructure. On this apprenticeship you will be expected to learn a broad skills base to work in areas which include sustainable construction, structural integrity, geotechnics, materials, tunnelling, marine and coastal engineering, water, waste management, flood management, transportation and power.

A technician's work involves;

Design – assisting in the development of technical solutions by producing design models, calculations, reports and drawings, surveying a site, using appropriate analysis and relevant codes.

Analysis – using appropriate software systems and other data gathering tools and tests to solve technical problems.

Project delivery – contributing to planning, managing work schedules, budgets and deadlines, and ensuring outputs comply with client and industry specifications, standards and guidance.

Site engineering - operating quality systems and Health, Safety and Risk Management procedures and checking specified technical aspects of site activities.

Off the Job Training

A key requirement of an Apprenticeship is Off-the-job training. This must make up at least 20% of the apprentice's contracted hours, over the total duration of the apprentice's planned training period. Off-the-job training must be directly relevant to the apprenticeship standard and must take place within the apprentice's normal working hours.

The new learning must be documented and reflected on through the Learner Journal on their e-portfolio.

What counts as off the job training?

- Days spent training for the standard at college
- Any training given to the apprentice at work where they are not physically working on the job role (e.g., a manager explains how and why a job is going to be completed before the task has started).

Entry Requirements

5 GCSEs at Grades 4 – 9 including Maths (Grade 5/6), English and Science or their equivalent. Before a candidate is offered a place on programme, both the candidate and the employer will be assessed to make sure they're suitable to undertake the apprenticeship. The apprentice will need to meet academic entry requirements and the employer must be able to offer the apprentice the range of work required to enable the candidate to gather sufficient evidence throughout the course.

Once they have been accepted on to the programme all apprentices will be required to attend a Lincoln College Induction. Apprentices will require access to a tablet/computer to access their e-portfolio.

Knowledge, Skills and Behaviours

KNOWLEDGE

A Civil Engineering Technician apprentice will learn;

The different techniques and methods used to design, build and maintain civil engineering projects.

- This includes understanding how ideas and requirements are converted into engineering designs; knowing the standards, contracts and specifications and their impact on the design and construction process.

The appropriate scientific, technical and engineering principles relating to the design, delivery and maintenance of infrastructure and buildings.

- This includes an understanding of the mathematical, scientific and engineering techniques required to support the design and construction processes, including building information management and modelling aspects of civil engineering disciplines with a demonstrable knowledge of sustainability.

How to work effectively and contribute to engineering solutions by the correct use of resources and time.

- This includes an understanding of project management systems, tools and techniques as they are applied to the design and construction process.

How to communicate effectively using a range of techniques.

- This includes an understanding of different communication methods and when to use them; how to write technical reports; drawing and modelling conventions and engineering terminology; collaboration and effective team working.

The code of conduct of relevant professional bodies and institutions including ethics and their application in design and delivery of projects.

- Understanding the protection of client confidentiality, the need to adhere to corporate policies on ethics and diversity and the professional obligation to contribute to society.

Safe working practices and how to comply with them.

- Understanding regulations such as Construction Design and Management (CDM), Common Safety Method (CSM), hazard identification, mitigation and health safety and risk management in relation to project delivery.

Sustainable development and their own contribution to economic, environmental and social wellbeing.

- Understanding company and client sustainability and environmental policies and their impact on design and delivery; and an awareness of the environmental impact of projects and mitigating actions.

Sources of and approaches to Continuing Professional Development (CPD).

- This includes an understanding of appraisal schemes including training and development plans, CPD obligations and competency requirements relating to self and others.

SKILLS

A Civil Engineering Technician apprentice will learn how to be able to:

Select and use appropriate scientific, technical and engineering principles, techniques and methods to contribute to the design and delivery of infrastructure and building projects.

- This includes the ability to produce and self-check; calculations, models, drawings etc; use appropriate systems for data gathering, Computer Aided Drawing (CAD), Building Information Management (BIM) and project management; and assist with surveys and inspections.

Work with others to contribute to produce integrated engineering solutions by the correct use of resources and time.

- This includes the ability to contribute to developing, evolving and monitoring solutions to engineering problems whilst working to programme and within budget.

Manage and maintain the quality of their own work and that of others.

- Assess the task to be done, plan/schedule work and manage time; decide when to allocate work to other people; maintain the flow of information so the work can be completed on time; check work at an appropriate level and against appropriate standards and specifications.
- Keep well organised personal records of work undertaken.

Communicate effectively and appropriately with others using a range of techniques.

- Including verbal communication, reports, models and drawings using correct terms, standards and formats.

Keep themselves and others safe by adhering to safe working practices.

- This includes the ability to identify hazards and assess risks, follow safe systems of work and adhere to all company safety policies.

Maintain their own skills base and learning.

- This includes the ability to continuously assess their own competence against training objectives and identify development needs and training action plans and comply with the code of conduct set out by their professional body.

BEHAVIOURS

- Take a responsible approach to health and safety.
- Be professional, proactive and receptive to constructive advice and guidance.
- Be willing to learn new skills and to adapt in the light of experience.
- Know one's limitations and when to ask for help or escalate.
- Work independently when appropriate and take responsibility for and pride in their work.
- Demonstrate a positive approach to problem solving.
- Effectively contribute to discussions as part of a team.

Assessment

Assessment is done through a combination of practical tasks, written assignments, oral discussions and online tests throughout the programme. To ensure that we can support you to meet these, we will complete an in-depth initial skills analysis to ensure that we can tailor our delivery to meet these unique requirements. We will then use the most relevant delivery methods to support your learners which include:

- One to one coaching from a dedicated, professional assessor/instructor allocated to the learner for the duration of the programme.
- Work based assignments and projects to be completed in an e-portfolio.
- Job shadowing and mentoring.
- Review of progress every 4 – 10 weeks.
- Employer led in house training.
- Independent learning and research as directed by the assessor/instructor.

End Point Assessment

The end point assessment will be in two stages and typically undertaken in the last two months of the apprenticeship:

STAGE 1

This is the preparation for the presentation and structured interview. It will consist of:

- A project which will test the apprentice's ability to integrate the knowledge, skills and behaviours acquired during the apprenticeship by developing a response to a technical project brief set by the Professional Engineering Institution, with a number of options and a rationale for the choice of one as the optimum solution.
- A written report of 1400-1600 words which demonstrates how, in the course of their apprenticeship, the apprentice has integrated the knowledge, skills and behaviours needed to be a competent Civil Engineering Technician. The report is verified by a professionally qualified engineer and will be used to inform the structured interview.

STAGE 2

- A 10-minute presentation by the apprentice to the Assessor Panel showcasing their response to the project brief. This will be followed by 10-15 minutes of questions and discussion. ST0091/AP01 2 Crown copyright 2020 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government License. Visit www.nationalarchives.gov.uk/doc/open-government-licence
- A 30-40-minute structured interview based on the written report submitted prior to the interview, the purpose being to determine the apprentice's ability to integrate the knowledge, skills and behaviours acquired during the apprenticeship to be successful the apprentice must pass the Presentation and Structured Interview.

Qualifications

Apprentices will complete a Diploma in Construction and the Built Environment Level 3 formal qualification.

Progression

Apprentices could go on to study HNC/HND's/ Apprenticeship Degree's in their subject or could move into full-time employment.

Fees

As an Apprentice, you will pay no course fees. However, your employer may have to pay towards your training as well as providing you with a wage. All Apprentices must receive a minimum wage of £4.30 per hour within their first year of training from their employer, although they can, and often do, pay more. In the second and subsequent years of an Apprenticeship programme, the national minimum wage for your age would apply.

If you are an employer and want to find out more information regarding employer contributions and any further costs related to the Apprenticeship programme, please contact our dedicated Apprenticeship team at employers@lincolncollege.ac.uk

Business Benefits

Employers have designed the Apprenticeship Standards to meet the needs of the sector and industry. Ensuring they include:

- Relevant Knowledge, skills and behaviours ensure that the Standard is relevant to the occupation.
- Widening participation Apprenticeship standards provide opportunities to employees that may not previously have been available.
- Development tools A cost effective way to train your employees to undertake specific roles in your business.
- Return on Investment On average, an apprentice who has completed their course will increase business productivity by £214 per week (CEBR, 2015).

Key Contacts

For further information or to arrange a face to face visit, please contact a member of the Construction Apprenticeships team using the details below;

Erika Stainton
Apprenticeship Co-ordinator (Construction)
estainton@lincolncollege.ac.uk
07966 232578

Jon Cotton
Learning & Skills Lead (Construction)
jcotton@lincolncollege.ac.uk
07580 201418