

<< Eligibility

It is advisable for apprentices to have a minimum of three GCSEs (or equivalent) at grade C or above, including English and maths. Apprentices without level 2 English and maths will need to achieve this level prior to taking the end point assessment. There is also a requirement to have good aided or unaided eyesight to satisfy the mandatory NDT eyesight test, and to have appropriate physical fitness in order to operate in industrial environments.

Requirements: Knowledge, Skills and Behaviours

Below are **examples** of the required knowledge, skills and behaviours:

Knowledge and understanding of:

- Relevant mathematics, including numerical and data analysis
- Formula-based engineering and the scientific principles
- How to use materials, equipment, tools, processes and products relating to NDT
- Preparation of NDT Procedures, Technique Sheets and Work Instructions for use by NDT Operators
- The limitations of standard tests and measurements
- Industry-specific product technology, e.g. material types, defect types
- How to use the results of engineering NDT analysis
- Health & safety and company-specific requirements
- The consequences of failure and the risk to life and the environment

Skills and Practical Application

- NDT in three methods, including at least one complex method (mandatory) and a choice of two other methods from the following:
 - Ultrasonic Testing – complex
 - Radiographic Testing – complex
 - Eddy Current Testing – complex
 - Infrared Thermography Testing – complex
 - Magnetic Particle Testing
 - Penetrant Testing
 - Visual Testing
- Apply appropriate solutions to well-defined engineering problems
- Select appropriate methods and techniques and understand their limitations

Behaviour

- **Leadership** – including motivating people
- **Teamwork** – manage a team and to support others
- **Courage** – willing to make independent decisions
- **Delivery** – consistently manage activities / tasks through to timely completion
- **Respect** – for the abilities of others, particularly those working under your direction
- **Ethics** – to act with maturity, honesty and integrity

Training and Support from Skills Training UK

Skills Training UK will work with the employer to develop a training plan for the apprentice and our trainer-assessor will visit the apprentice within the work place at least once per month in order to support their learning and development. They will also be supported between visits by off-site information, advice, guidance, academic progress and technical competence support. We will ensure that all learning needs are being met in order to ensure successful progression against all elements of the apprenticeship.

Independent End Point Assessment

To successfully complete the apprenticeship, the learner needs to pass an End Point Assessment. This is an independent assessment which has several stages:

- **Portfolio of Evidence** – for example certificates of competence, letters of approval, training attendance certificates, log book and employer reports.
- **Product Showcase** – a presentation of the NDT project to demonstrate required knowledge and skills.
- **Synoptic Assessment Interview** – the interview panel will include two Engineering Council registrants knowledgeable in NDT and appointed by the independent assessment organisation. The interview will enable the apprentice to demonstrate the knowledge, skills and behaviours demonstrated in the Standard.

The independent assessment organisation will decide whether the apprentice has reached the required standards and if so, whether to award a pass or distinction.

Qualifications / NDT Certification

Apprentices are required to achieve industry-recognised NDT Level 2 certification in three methods in accordance with national and international standards.

Please contact us to arrange an introductory meeting

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Level 3 NDT Engineering Technician New Apprenticeship Standard

At Skills Training UK we go further in fully understanding what it is that our employer clients want to achieve from their training. We work as their partner in delivering on that vision, developing stronger employees who work well as individuals and as part of a team.



This apprenticeship is for an NDT Engineering Technician. His or her role will involve technical supervisory responsibility of NDT Operators and other junior staff within the organisation.

Occupational Profile

NDT uses various methods, such as ultrasonics, radiography and infrared thermography, to detect cracks and other imperfections in manufactured components, including those that have been in service for a period of time. The results of inspections are taken at face value and, therefore, specialists rely on NDT accuracy when deciding whether to operate, repair or replace a component.

The importance of the role of the NDT Engineering Technician cannot therefore, be overstated. The NDT Engineering Technician will be able to work in specific industries, such as aerospace, motorsport, power generation and distribution, manufacturing, railways, oil & gas (on- and offshore), marine and construction. Real-life examples could include inspecting airframes and engines, Formula 1 gearboxes and nuclear reactors or other safety-critical components.

The NDT Engineering Technician will oversee, validate and audit by re-inspection the work of NDT Operators, and manage projects and specific areas of work. He or she will hold three NDT certificates (mapped to engineering registration at the EngTech level) and will have transferable skills that will include a broad knowledge of engineering principles and manufacturing processes.

Duration

The duration of this apprenticeship is typically 36 months and an independent End Point Assessment must be completed at the end in order to pass.

Employer Commitment

An employer must be prepared to provide the learner with the opportunity to carry out work and be part of projects which will enable the learner to produce substantial evidence towards their qualification.

In order to ensure the successful progression of the learner we request that employers participate in joint reviews of the learner's progress at regular intervals throughout the apprenticeship. This ensures continued and positive progress through the apprenticeship. It will also provide the opportunity to discuss and agree how any issues are to be resolved and how additional stretching and challenging activities can be built in.

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Level 3 NDT Engineering Technician Apprenticeship Standard

Delivery Model

	Induction	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28	Month 29	Month 30	
Off the job training led by STUK/NDT school	Issue BINDT log book & record supplement. Select chosen NDT Methods	H & S workshop presentation, risk assessment activity, observation, action plan, review	NDT training visit 1. Method 1 overview. Method 1 basic principles	Effective teamworking workshop presentation - covering behaviours and Belbin exercise. Progress review	NDT training visit 2. Method 1 equipment, flaw detection & techniques	Workplace organisation (5s) presentation, 5s audit & observation	NDT training visit 3. Method 1 control of test parameters & interpretation of output. Progress review	Kaizen workshop presentation - 8 wastes, VA & NVA work. Lean exercise	NDT training visit 4. Flaw classification & evaluation, product technology. Method review. 1st formal NDT Method training & exams	Visual management workshop presentation. Workplace observation. Progress review	NDT training visit 5. Method 2 overview. Method 1 basic principles	Problem solving workshop presentation, Ishikawa & 5 Why's, Pareto analysis	NDT training visit 6. Method 2 equipment, flaw detection & techniques. Progress review	Facilitate QCD project workshop. A3 report/PDCA & review. IEA understanding	NDT training visit 7. Method 2 control of test parameters & interpretation of output	Facilitate QCD project workshop. A3 report/PDCA. Progress review	NDT training visit 8. Flaw classification & evaluation, product technology. Method review. 2nd formal NDT Method training & exams	Facilitate QCD workshop. A3 report/PDCA	Facilitate QCD workshop. A3 report	NDT training visit 9. Method 3 overview. Method 1 basic principles. Progress Review.	Facilitate QCD workshop. A3 report	NDT training visit 10. Method 3 equipment, flaw detection & techniques	Facilitate QCD project workshop. A3 report/PDCA. IEA working effectively & relationships. Progress review	NDT training visit 11. Method 3 control of test parameters & interpretation of output	Facilitate QCD project workshop. A3 report/PDCA. IEA review	NDT training visit 12. Flaw classification & evaluation, product technology. Method review. 3rd NDT formal Method training. Progress review	Identify a suitable EPA NDT project. IEA end test. IEA exam	Develop NDT project to factor in behaviours and all NDT Methods	Review procedures & amend as appropriate for trial. Obtain approval. Progress review	Analyse results and consider further improvements. Obtain authorisation	Review EPA criteria inc. key elements. Mock EPA & presentation	Review criteria for EPA - inc. in key elements
Expected hours	3	5	5	5	5	5	5	5	45	5	5	5	5	5	5	5	45	5	5	5	5	5	5	5	125	5	5	5	5	5	5	
Self study (Apprentice)	Populate BINDT log book	Issue health and safety workbook (UPK)	NDT test paper covering above modules	Issue effective teamworking (UPK)	NDT test paper covering above modules.	Issue workplace organisation workbook (UPK)	Complete NDT test paper covering above modules	Issue Kaizen continuous improvement workbook (UPK)	Complete NDT test paper, covering above modules. Revise Method 1 for exam	Issue visual management workbook (UPK)	Complete NDT test paper, covering above modules	Issue problem solving workbook (UPK)	Complete NDT test paper covering above modules	QCD action planning. Data collection, current situation. IEA Section 1 - H&S in an industrial environment	Complete NDT test paper covering the above modules	QCD action planning. Root cause analysis & counter-measures. IEA Section 2 - how to communicate in an industrial environment.	Complete NDT test paper covering above modules. Revise Method 2 for exam	QCD project prevent reoccurrence of Muda. IEA Section 3 - working effectively in an industrial environment	Complete NDT test paper covering above modules	Monitor results. IEA Section 4 on working relationships in an industrial environment	Complete NDT test paper covering the above modules	Project action planning. IEA Section 5 on rights & responsibilities in an industrial environment	Complete NDT test paper covering above modules	Project action planning. Prepare for IEA exam	Complete NDT test paper covering above modules. Revise Method 3 for exam	Collate data and literature for NDT project. Measure performance	NDT project problem solving & potential counter-measures	Evaluate trial success	Communicate results internally & externally	Complete portfolio, documentation, project and prepare for presentation	Complete portfolio, documentation, project and prepare for EPA	
Expected hours	6	8	4	8	4	8	4	8	8	8	4	8	4	10	4	10	8	10	4	10	4	10	4	8	8	6	8	8	8	8	8	
Off the job learning & application (Apprentice)	Enrolment, initial assessment, introduction to qualification	Health & safety underpinning knowledge. Risk assessment findings/ action plans	Begin supervised experience in Method 1	Effective teamworking underpinning knowledge. SWOT analysis	Continue supervised experience in Method 1	Workplace organisation underpinning knowledge. Photograph current situation.	Review supervised experience in Method 1	Kaizen underpinning knowledge, data collection (Muda)	Complete and document supervised experience in Method 1. Attend formal training	Visual management underpinning knowledge & visual management audit	Begin supervised experience in Method 2	Problem solving underpinning knowledge. Carry out cause & effect	Continue supervised experience in Method 2	QCD project justification meeting. Data justification, meeting minutes & IEA	Review supervised experience in Method 2	QCD project justification meeting. Possible countermeasures evaluation	Complete and document supervised experience in Method 2. Attend formal training	QCD project results and sign off	Begin supervised experience in Method 3	Complete & present A3 report	Continue supervised experience in Method 3	QCD A3 report	Review supervised experience in Method 3	QCD A3 report	Complete and document supervised experience in Method 3. Attend formal training	Develop NDT project & set goals (PDCA)	Develop NDT project. Consider impact on all aspects	Develop NDT project. Document findings	Close off project & implement. Monitor results. Inform Independent Assessment Organisation.	Prepare for EPA	EPA	
Expected hours	0	2	See below	2	See below	2	2	2	2	2	See below	6	See below	6	2	6	2	6	See below	6	See below	6	2	6	2	6	6	6	6	6	6	
Employer / Apprentice	Employer mentoring, learner support (agreed actions)	Employer mentoring, learner support (Gantt chart) & registering with BINDT.	Employer mentoring, learner support (practical demo & supervised experience). Log actual and cumulative exp. hours	Employer review & mentoring. Carry out review and support. Log actual and cumulative exp. hours	Confirm dates and venue of formal training, exam mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours, 6 month review	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Facilitate course attendance. Log total required Method hours (480 or 1,200)	Employer Review & mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (practical demo & supervised experience). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Confirm dates and venue of formal training/exam. Employer review & mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer review & mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Facilitate course attendance. Log total required Method hours (480 or 1,200)	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, project implementation, approval, overcoming barriers to change, learner support (practical demo). Log actual and cumulative exp. hours	Employer mentoring, project implementation, approval, overcoming barriers to change, learner support (practical demo). Log actual and cumulative exp. hours	Employer review & mentoring, learner support (practical demo). Log actual and cumulative exp. hours	Employer mentoring, project implementation, witness testimonies, learner support (practical demo). Log actual and cumulative exp. hours	Facilitate course attendance. Log total required Method hours (480 or 1,200)	Employer mentoring, project approval, sign off, SOP sign off	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours	Employer mentoring, learner support (agreed actions). Log actual and cumulative exp. hours		
Expected hours	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Total hours per month	13	19	13	19	13	19	15	19	59	19	13	23	13	25	15	25	59	25	13	25	13	25	15	23	139	21	23	23	23	23	23	
Demonstrated work experience hours per month (required to meet Standard)	0	0	0	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	80 - 160	84-160	0	0	0	0	0	0	0	