![Future Apprenticeships]

Department for Education

EDUCATION & TRAINING FOUNDATION

Provider Readiness Report

PRACTICAL INSIGHTS AND GUIDANCE
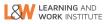
FOR DELIVERING APPRENTICESHIP STANDARDS

Laboratory Technician

Leading Partner:

aelp association of employment and learning providers

Strategic Partners:

SDN The Strategic Development Network

A°C Association of Colleges — Promoting, Representing, Supporting.

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UCL Institute of Education

UVAC UNIVERSITY VOCATIONAL AWARDS COUNCIL

Provider Readiness Report – Laboratory Technician (Level 3)

Introduction:

Provider Readiness Reports are delivery guidance documents for an apprenticeship standard. They are created by training providers (including colleges, independent training providers, higher education institutions and others). The reports provide practical insights and guidance to help with planning for delivery and in negotiations with employers. They will help providers make decisions about the commitment of time and other resources required to train apprentices to meet the requirements of the new standards.

Standard	Links to Standard
Assessment Plan (end-point)	**Links to Assessment Plan**
Employers involved with the development of the standard for Laboratory Technician	Led by organisations including: Actavis, Aesica Pharmaceuticals, Astra Zeneca, BCM, Essar, Fujifilm Diosynth Biotechnologies, GSK, Ineos, Lotte Chemical UK, Lucite, Medimmume, Pfizer ,SABIC UK Petrochemicals, Sellafield, Sembcorp, Seralab, Synergy Outsourcing, Victrex, RSC I, ChemE, SB
SASE Overlap	LATA Level 3 all pathways
Mandatory Qualification(s) on standard	Apprentices must achieve a Level 3 or 4 qualification in a science or technology discipline relevant to their occupation, which is recognised for professional registration by RSciTech, prior to taking the end-point assessment. Example qualifications are detailed in the assessment plan for this standard. If the apprentice does not have English and maths at Level 2 on entry these must be achieved prior to taking the end-point assessment.
Additional optional qualifications recommended by the trailblazer group	Health and Safety - example IOSH qualification
Maximum Core Government Contribution (CGC) , subject to employer contribution (15/16 & 16/17)	£18,000 maximum CGC, subject to employer £9,000 contribution. The price of on-programme training and end-point assessment is subject to employer/provider negotiation and may be higher or lower than combined values above; where higher the maximum CGC remains the same and the employer would need to pay the difference in full. The employer may be eligible for incentive payments, which they can use as they wish. See current funding rules for further guidance.
Anticipated Volume	Moderate

Level	3
English and Maths Requirements	For Level 3 to 7 apprenticeships, apprentices must achieve Level 2 English and maths prior to taking their end-point assessment. Apprentices must start English and maths at Level 2, unless the provider has conducted a formal, recognised assessment that demonstrates they need to study at Level 1 first in order to successfully achieve their Level 2. SFA provides a flat rate for English and maths up to Level 2 as part of an approved apprenticeship standard. Employers will not need to make an employer contribution. See current funding rules for further guidance.
End-point Assessment Methods	On completion of gateway 1 and 2 the employer will sign off the apprentice as ready for the formal end-point assessment, which must be conducted in the workplace. Formal end assessment will take place during the last 3 months of the apprenticeship and will comprise: · Review of behaviours evaluation log · Synoptic assessment test (SAT) · Vocational competence discussion · Scenario case study

Supporting information and Glossary of Terms

Assessment Role	Notes
Employer	Supports the apprentice in the workplace, may provide training, coaching or mentoring.
	The employer must confirm that the candidate is competent by signing the Evaluation Log.
	The employer must nominate an assessor to support the synoptic assessment test. The assessor must be registered with the Independent Assessment Organisation (IAO) and meet the assessor specification.
Training Provider	Employers wishing to access funding must appoint an SFA approved lead provider.
	The training provider may deliver mandatory qualifications, such as the BTEC in Applied Science. The training provider may also advise the employer on whether the apprentice is ready to undertake the end-point assessment through review of the gateway steps, confirm specific competencies within the vocational competence evidence log and monitor apprentice progress.
	Employers wishing to access funding must appoint an SFA approved lead provider via the Register of Training Organisations (ROTO) https://www.gov.uk/government/publications/register-of-training-organisations
	Employers may choose to engage with one or more providers to deliver the on programme training.
	Providers wishing to deliver on-programme delivery must registered and be approved on the, Register of Apprenticeship Training Providers (RoATP). Also providers who wish to deliver to employers without a digital account, must register and be approved on the Invitation to Tender (ITT). Please follow the link for further information. https://www.gov.uk/government/collections/register-of-apprenticeship-training-providers
End-point Assessment Organisation	Employers must select an independent assessment organisation from the SFA Register of Apprentice Assessment Organisations (RoAAO), approved to deliver this particular standard: https://www.gov.uk/government/publications/register-of-apprentice-assessment-organisations
	The independent assessment organisation will devise, deliver and administer the end-point assessment. It will also award the end-point assessment grades and quality assure the whole process.

Term	General Definition within Trailblazers
On-Programme	This is the period from start until the end-point assessment gateway is met. Apprentices require a minimum period of 12 months on-programme training,

	with 20% off-the-job training prior to taking the end-point assessment to meet funding eligibility requirements. It will include training to develop the skills, knowledge and behaviours detailed on the standard and completion of any mandated qualifications, including English and maths where required. Preparation for the end-point assessment should be completed in this phase. This is an area of significant interest for apprenticeship training providers.
Gateway	Any requirements that must be completed/achieved as a pre-requisite to undertaking the end-point assessment are termed the gateway. For this standard there are two gateway phases within which the IOSH [or alternative Health and Safety training], Level 3 or 4 knowledge qualification and Level 2 (English and maths) must be completed and achieved before any end-point assessment component can be attempted.
Trainer	The term trainer is commonly used in relation to roles within the on-programme period. A trainer may be appointed by the employer or training providers to deliver some or all parts of the on-programme phase of training. This includes delivering any mandated qualifications, preparation for the end-point assessment and all gateway components. The trainer has no status within the end-point assessment, unless specifically referenced and approved within the assessment plan (for example; being a signatory to a portfolio or a panel interview).
Independent Assessor	Individuals involved in administering and delivering the end-point assessment are commonly termed the assessor, end-point assessor or independent assessor and must be appointed by an approved end-point assessment organisation.
External Assurer	Individuals involved in administering and delivering the end-point assessment are termed the external assurer and must be appointed by an approved end-point assessment organisation. The external assurer manages and is accountable for all aspects of the end-point assessment. For this standard the external assurer will oversee the synoptic assessment test, run the vocational competence discussion and the scenario case study. They will recommend the final grading decision for moderation and confirmation by the independent assessment organisation. They will also complete all quality assurance documents as needed. The external assurer must be registered and approved by the approved independent assessment organisation to act in this capacity. Further approvals will be required to award professional status, such as RSciTech.

Themes	Considerations / Implications for delivery	Resources
Recruitment/ entry requirements: *employer specific requirements, English and maths levels, specified initial assessment, linked standards*	It is expected that 5 GCSEs at C grade or above (including science) and BTEC Diploma Level 2 or equivalent would be an employer's typical entry requirements. Apprentices with lower than a C grade, for example in maths, may find that during a two year programme, the content would be difficult to achieve. Apprentices should be stretched on the programme and take the BTEC National, HNC or a Level 3 qualification recognised by the professional bodies for RSciTech, depending on their prior learning (e.g. A Levels), job role and the requirements of their employer. Training providers will need to check funding criteria in the Funding Guidance 15/16 regarding previous levels of qualification and what constitutes progression into an apprenticeship. The potential exists for a training provider/employer to develop a bespoke traineeship programme that can act as foundation level training to prepare young people for a career in the industry. The foundation programme should concentrate on the development of the GCSE or BTEC Level 2 entry requirements and act as a recruitment talent pool.	The Standard The Assessment Plan Future Apprenticeship Toolkit
On programme components: *to develop the skills, knowledge and behaviours detailed on the standard and to prepare apprentices for end-point assessment*	Apprentices must complete a minimum period of 12 months on-programme training, with 20% off-the-job training prior to taking the end-point assessment to meet funding eligibility requirements. It should include training to develop the skills, knowledge and behaviours detailed on the standard and completion of any mandated qualifications, including English and maths. Preparation for the end-point assessment should be completed in this phase. It is expected that the employer will be responsible for some/most elements of the on-the job training. The division of training, assessment and support responsibility should be clearly identified in the training plan. Mandated qualification requirements for this standard are: ☐ Level 3 or 4 qualification in science or technology disciplines recognised for professional registration by RSciTech (see qualification list - assessment plan) ☐ Level 2 English and math Other requirements are: ☐ IOSH – (Level 1) Working Safely certificate or equivalent training ☐ Vocational competence evaluation Log ☐ Review of behaviours evaluation log	The Standard. The Assessment Plan. SFA funding guidance. Apprenticeship standards quality statement. Embedded functional skills materials. The work based learning guide to accompany the assessment plan will provide description of high level learning outcomes to support employers and training providers to prepare apprentices for assessment. The work based learning guide is available alongside the standard and the assessment plan at www.siasuk.com

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	The trailblazer employer group has developed a work based learning guide that describes the detailed competences that underpin each element of the apprenticeship standard. Based on national occupational standards, the work based learning guide provides a detailed specification of the level of skills, knowledge and behaviours required to achieve occupational competence in the development phase of the apprenticeship.	
	It is recommended that an apprenticeship training plan is mapped to the work based learning guide and the behaviours evaluation matrix for the apprenticeship standard.	
	The duration of the knowledge component within the apprenticeship will vary, but it should reflect the training demands of the specific apprentice/employer. The standard gives training providers the opportunity to ensure they provide what is needed for the range of workplaces and employers across the sector. Full qualifications and units can be selected to meet apprentice/employer needs.	
	For example, the knowledge component may be the 120 credit BTEC Diploma in Applied Science. As an example; Furness College deliver this for 1.5 days per week over a two-year period using BTEC Applied Science option units. However, the programme needs to include what the apprentice/employer needs, and may require more or less science and therefore a one day level 3 Subsidiary Diploma (minimum of 60 credits) is also acceptable. A shorter block delivery model may also be an acceptable alternative to day release.	
	Gateway 1 – The foundation phase, typically months 1 -9, will focus on developing the apprentice's core skills, knowledge and behaviours. This should focus on working safely, complying with internal and external regulations and following quality procedures. Training may take place in the workplace or in a simulated working environment. It will culminate in gateway 1; a review of skills by suitably qualified and experienced personnel from the employer or nominated training partner. This will provide confirmation that the apprentice understands the principles of working safely whilst following quality systems within a regulated environment.	
	Whilst specific qualifications are not mandatory, evidence of completion of this gateway is confirmed in a log that is a record of their continuous competence evaluation, and completion of this log will be a pre-requisite for participation in the formal end assessment.	
	This phase is to be considered as the probationary period in which the apprentice gains key health and safety skills and demonstrates the personal skills necessary to work within	

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	the science industry. If an apprentice does not achieve an IOSH Working Safely certificate or equivalent, then it is possible that they are unable to work safely within an industrial science environment. A failure to demonstrate key behavioural skills could highlight the inability of the apprentice to fulfil a contract of employment or indicate that they are possibly in the wrong role. Is this apprenticeship right for this person? This phase could also start to build behaviour assessment opportunities to test areas of development and additional support. This is the start of their career in this area of work and therefore establishing the right behaviours from the start are important; the earlier the better. This should be identified during early review with the employer, for example; is the apprentice turning up on time, acting safely, team working or sharing information? To support this process, the trailblazer employer group has developed a behaviours evaluation matrix that describes the assessment criteria that should be used by employers to determine whether the apprentice meets the required standard. It also indicates behaviours that would contribute to achieving a distinction for the apprenticeship award. The behaviours evaluation matrix is included in the work based learning guide. Some providers are considering offering employers an outward bound type of programme for their apprentices to develop skills. This could be a generic programme for all apprentices/students, across a provider organisation, to work together. The assessment of behaviours during this kind of activity could be by peer or 360 degree assessment – how did you work, but essentially all learners would have access to this. Employers may have their own training and development programme. Gateway 2 – The consolidation phase, which is typically months 10 – 24, will focus on developing further skills capability, supported by further guided learning, enabling the apprentice to eventually work effectively and independently with minimum supervision. The apprentice will work towards a qualification recognised by a professional body which is suitable for registration for RSciTech (see list in assessment plan). Achievement of this qualification will also be a pre-requisite for participation in the formal end assessment. At the end of the consolidation phase the apprentice will have completed their training and through ongoing competence evaluation, including behaviours evaluation, they will have generated a range of evidence to show they meet the apprenticeship standard. A suitably qualified and experienced assessor from the employer will sign off a log that is a record of their continuous competence evaluation and will show they are ready for the formal end assessment. This independent assessor must be approved by the RoAAO as meeting the	

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	required assessor standards. On programme practice for end-point assessment is extremely important to ensure that the learning is reinforced by reviewing evaluation logs.	
Delivery models/ Infrastructure: *the drive towards effective competence-based and situational training*	It is expected that the employer will be responsible for skills development and most of the on the job training covering the standard. For example, the employer may develop specialised skills not available to a training provider; such as the use of gas chromatography or HLPC equipment. The division of training, assessment and support responsibility should be clearly identified in the training plan. For the qualification and development of underpinning knowledge and competence, combining apprentice programmes with full time student programmes, is an example approach of how an employer can be offered the selection of units required to meet the needs of the apprentice/organisation. If the training provider doesn't run provision for full time students, or if the company wants specialist units e.g. polymers, training providers may look to partner with other training providers/associates that can deliver the specialisms needed. Required qualifications need to give a good basic grounding in science so that training providers will be able to deliver a BTEC with appropriate content. Training providers may find it difficult to deliver specialist units. Roll on/off provision is desirable to ensure apprentices can start their learning throughout the year. Some units need to be covered at the start of the learning programme so ordering the units will be an important consideration and building in 'start points' would ensure the foundation level is covered. For example; BTEC qualification is unitised but cannot start on any unit as there is a hierarchy and the most appropriate starting point would need to be agreed in discussion with the employer. E-learning can offer providers and employers additional flexibility. Further Education Learning Technology Action Group (FELTAG) requirements mean 5% min delivery via e-learning. This could, as an example, involve apprentices having some home/self-study built into their programme. The IOSH Working Safely certificate (or equivalent) could be delivered via e-learning or be built into an induction programme if that satisfies employer requirements. The use of a VLE and on-line assessment would also provide alternative and up to date delivery models. However, this approach may be problematic for employers that lack these facilities and prior approval may be required to deliver this type of model from the awarding	The Standard. The Assessment Plan. The employer brief (under development) to accompany the plan will provide description of high level learning outcomes to support employers and providers to prepare apprentices for assessment.

Themes	Considerations / Implications for delivery	Resources
	organisation.	
	Evidence to support the end-point assessment and competency log will be generated throughout the training period and this may be collated within a portfolio, e.g. training certificates. This could be a physical or an online portfolio.	
	The employer confirms to the assessment organisation that the apprentice is ready for end-point assessment. The assessment organisation will then specify what evidence they need and the process for confirming end-point assessment can go ahead.	
Resources: *materials/ resources/ equipment*	Learners will need access to a chemistry/science laboratory equipped with a fume cupboard and standard laboratory chemistry apparatus. Access to a range of information resources, including the internet, to complete investigative assignments and case studies will be essential. Example; for guidance follow the BTEC adequate laboratory access requirements with relevant safety.	
Staffing: *staff qualifications and skills needed*	The development of the training plan will be key at the start of the contracting with the employer. The provider will need to identify a member of staff who has both the technical knowledge of the standard and an understanding as to how this might be delivered and the costs involved.	
	Example; the assessor who has both the technical knowledge of the qualifications and industry experience can work on putting this together. For the bigger companies, this may involve sitting down with the employer and discussing recommended delivery models.	
	Business development or apprenticeship teams without the specialist science/technical expertise would find it difficult to discuss the specific requirements of the employer.	
	The flexibility offered via the standard puts the employer in the driving seat; this will be a new role for the employers in learning to understand how they choose what is included in the apprenticeship, and employers may need support and guidance from a provider to ensure their needs are met. It is also possible that staff from across departments, for example science and engineering, may need to develop communication skills and new ways of working to meet employer needs. For example; process workers in a science industry?	
	CPD will be required to support line managers with their role in the end-point assessment process so that they are committed and fully understand their responsibilities.	

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Costing: *costs associated with the resources*	£18,000 maximum CGC, subject to employer £9,000 contribution. The price of on-programme training and end-point assessment is subject to employer/provider negotiation and may be higher or lower than combined values above; where higher the maximum CGC remains the same and the employer would need to pay in full the difference. The employer may be eligible for incentive payments which they can use as they wish. See current funding rules for further guidance. Training providers are to consider end-point assessment costs as outlined in the assessment plan. For the formal end-point assessment the external assurer will spend 1-2 days at the apprentice's workplace. It is anticipated that the employer will pay between 15% -20% of the total cost of the apprenticeship for the formal end-point assessment. The current indicative costs are £3000 per apprentice. The cost of ongoing competence evaluation is considered to be a training cost and does not form part of the cost of assessment for the apprenticeship award as described here. In addition, registration for health and safety qualifications and knowledge qualifications (e.g. BTEC) along with costs of teaching and assessment per hour will be needed.	SFA funding guidance. FA website example contracts and costing for on-programme activity. SFA funding guidance.
End-point Assessment:	Employers will select an independent assessment organisation from the register. Formal end assessment completed in the final 3 months will be based on a synoptic assessment test (SAT) in the workplace where the approved assessor will observe the apprentice on the job to ensure that the apprentice fulfills the SAT specification. An external assurer from the assessment organisation will observe part of the SAT and then lead a vocational competence discussion that may cover the whole of the apprenticeship standard. The apprentice will also complete a case study designed to test understanding of transferrable skills and application of knowledge that would be required for them to adapt quickly and function effectively after minimal instruction on new equipment / environments or under revised working practices. The apprenticeship award will be achieved on passing all elements of the formal end assessment. The apprenticeship is graded fail, pass or distinction.	The Assessment Plan. RoAAO

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Marketing / Communication: *promoting the offer to employers/ apprentices*	Trailblazer marketing and communication materials will be particularly helpful to providers to support their employer engagement activity. Materials to highlight the benefits to the employer of the apprenticeship route, what the standard looks like and how the links to professional registration would also be beneficial. This will enable providers to support career events and working with schools.	BIS/NAS materials. Cogent materials.
Managing relationships with Employer and Apprentices: *employer/ provider/ apprentice contracts*	It takes time to set up standard delivery, working with the employer, putting processes and systems in place for the delivery. For example; it took a college 12 months development time to set up the first pilot with a large employer. Included in the preparation with the employer would be the development of a clearly defined contract, outlining payment and repayment terms as well as roles and responsibilities for training, assessment, support and curriculum development. The employer has a lot of choice in regards to what suits their needs however, they will need guidance from the training provider to pull their training plan together into something that meets the apprentice/employer needs and satisfies the requirements of the standard.	SFA funding guidance.
Sub-Contracting relationships: *lead provider role and potential for collaboration on apprenticeship delivery*	The contract process needs to be clear, identifying what payments will be taken from the employer and when. The funding guidance needs to be consulted to identify the process involved when an apprentice leaves or there are changes in employment circumstances.	SFA funding guidance.
Progression: *professional registration*	The trailblazer employers have worked in partnership with professional bodies to define the apprenticeship standard and the assessment plan to ensure that it maps to the requirements for RSciTech set by the Science Council. The scope of the standard and the associated assessment plan means that the individual should not require any further training on completion of their apprenticeship to allow them to apply for professional registration such as RSciTech. Professional registration – how to engage the bodies and when to engage them? This will not be an automatic process for the apprentice. The competency log can be used to	

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	support the process of gaining professional recognition (RSciTech), but the assessor must be registered with the appropriate body, for example the RSC. Education through a webinar at the induction stage of the programme and providing written information when the learner starts could be used to promote the importance of professional recognition to the apprentices. At the beginning of the training, the trainer needs to identify what is required for professional registration and map this to ensure the apprentice is developing the right evidence along their apprenticeship journey. For example; if a vocational competency evidence log is to be used, would this be sufficient to support registration? Apprentices will probably also need to create a CPD development log that links to the competency log. Professional bodies will have materials that will show the apprentice the career path they have chosen and the evidence requirements from the professional body would need to be discussed with the employer. For example; what is the apprentice going to use to show they have the required evidence? This would need to be built into the training plan for the learner at the very start of their sign-up.	