



Apprenticeship builder

Draft: Occupational standard for an apprenticeship

This submission

Unique occupational standard reference number:
ST0666

Trailblazer Group Reference Number:
TB0216

Does this standard have core and options?
Yes

Is this proposal a resubmission?:
No

Title of Occupation:
Education Technician (Incorporating HE Assistant Technician & Simulation Based Education Technician)

Name of Trailblazer Group:
HE National Trailblazer Group

Occupational option titles:

- Option 1: Higher Education Assistant Technician
- Option 2: Simulation-based Education Technician

Occupation profile

Occupation summary:

This occupation is found in health and education sectors - Higher Education Institutions, NHS Trusts, and Simulation Equipment Manufacturers.

The broad purpose of the occupation is

To provide skilled technical support to teaching, learning and research environments across higher education and healthcare sectors. They may work across a variety of disciplines including applied science, engineering, arts and humanities, health and clinical simulation settings. They provide technical support to relevant personnel such as teachers, students, educators, researchers and healthcare professionals. This is done by demonstrating and using techniques, materials, equipment, and machinery; collation and interpretation of data or research outcomes (e.g. exhibitions) and completing specific documentation and resources that support and enhance teaching, learning, or research activities, exhibitions or theatre productions.

The Higher Education (HE) Assistant Technician will work within higher education establishments such as Universities. They typically work in one of the following settings: Applied Science, Engineering, Arts and Humanities, Healthcare to provide valuable technical support to learning or teaching or research.

The Simulation-based Education (SBE) Technician may be employed and work within NHS Trusts, higher education institutions, and industry or private facilities on a consultancy basis.

In their daily work, an employee in this occupation interacts with...

A wide range of internal and external colleagues, including but not limited to, their wider team, students, manufacturers, suppliers, finance and IT departments. This role is typically based in either a classroom, laboratory, studio workshop, simulated clinical environments or clinical areas (for SBE technicians to facilitate in-situ simulations). These roles may work within or external to the employing organisation and is likely to involve, travel to other sites, be that other areas of a University or trust for example a shared laboratory or externally to attend appropriate conferences and specific training courses relating to using complex equipment and techniques. The role requires awareness and contribution to budget discussions such as an understanding of the costs and required functionality of specific equipment. The role requires some supervision of students and learners such as when supervising use of a new piece of equipment.

An employee in this occupation will be responsible for...

The completion of their work to a defined specification and deadline, in line with quality, health & safety and environmental regulations and requirements, with minimum supervision.

They are responsible for managing and undertaking routine maintenance of bespoke equipment, managing stock control and housekeeping to ensure teaching, learning and research environments are and remain fit for purpose, using appropriate IT technologies to support them. They have an active role in ensuring compliance with health and safety regulations and local and organisational policies.

They will contribute to the development of new and sometimes complex tools, techniques and teaching, learning and research innovations (such as developing a new piece of equipment, structure or process to support research experiments or creative practice). They will support academics, healthcare professionals and researchers by identifying problems (with equipment, procedures, processes, experiments) and offering design solutions (**modifications**) which may involve the manufacture, construction or assembly of standard and bespoke components, which may be integrated into equipment, procedures or experiments or used in exhibitions or events. This includes following testing and integration protocols and other local rules where necessary. They will prepare the teaching, learning and research environment by:

- demonstrating the equipment, for example to students or staff
- contribute to the development of new techniques such as an experiment, creative activities or a specific scenario

- collate data and documentation, for example on the effectiveness of a piece of equipment or process
- contribute to ongoing evaluation
- manage routine housekeeping
- maintenance and repair of equipment and the environment
- stock control
- use IT and technologies to produce reports and respond to requests from, for example academics or clinicians

In addition to the core responsibilities HE Assistant technicians also:

- Set up and assemble equipment or resources for a **research or teaching experiment or artistic/creative technique** to the required level of precision and detail.
- Provide advice and guidance on either resources, materials or equipment to either students or researchers.
- Provide appropriate representations of information, such as experimental data or realistic visualisations, derived from experimental work or creative process, and manipulate them into appropriate formats (tables, graphs, catalogues, indices, and portfolios) for publication.

In addition to core responsibilities listed, SBE technicians also:

- Support delivery of training sessions using simulated learning for example clinical skills (part-task trainers), Life Support, formative & summative assessment, in-situ simulation.
- Create moulage/special effects make-up to apply to manikins and actors working as simulated patients to enhance the realism and the clinical accuracy of individual scenarios.
- Undertake the scenario coding (programming) and subsequent operation of human patient simulators, part task trainers and other modes of simulation, such as virtual or augmented reality using specific software and hardware to ensure the quality and realism of the simulation is achieved.

Typical job titles:

Typical job titles include HE Assistant Technician; Junior Technician; Simulation Technician; Learning Support Officers; Clinical Skills Technician; Technical Co-Ordinator

Duties

Core occupation duties

Duty	KSBS	No of Days OTJ
<p>Duty 1 Prepare the teaching, learning or research environment for a specific activity such as an introductory session to the area for new students or teaching students about particular skills, techniques and methodologies associated with a process or equipment or artistic / creative technique.</p>	<p>K1, K2, K3, K5 S1, S2, S3, S5 S9, S14, S17. B3, B4, B6</p>	5 days
<p>Duty 2 Deliver demonstrations to others (such as teaching students and staff to operate simple and more complex equipment or a creative technique for example jewelry making) and facilitate the use of creative techniques/materials/equipment/machinery and tools to the relevant audience such as researchers, students, healthcare professionals.</p>	<p>K1, K2, K3, K5, S3, S4, S5, S9, S15, S17 B3, B4,</p>	5 days
<p>Duty 3 Contribute to and support the development of new techniques, tools, equipment and innovations for teaching, learning or research.</p>	<p>K1, K4, K5, K6, K12, K13 S6, S14 B1, B2,</p>	3 days
<p>Duty 4 Collation of data, documentation and resources such as room usage, student footfall, inventories of equipment, in order to support and enhance teaching, learning or research activity.</p>	<p>K1, K2, K4, K10, S11, S12, S13, B4, B6</p>	3 days
<p>Duty 5 Manages and undertakes routine, scheduled, unscheduled and bespoke housekeeping protocols/Standard Operating Procedures to ensure that the environment remains safe and fit for purpose, for example, health and safety inspections, Infection control audits.</p>	<p>K2, K3 K7, K9, S2, S3, S8, S17, B4, B6</p>	4 days

<p>Duty 6 Monitor and undertake routine maintenance of standard and bespoke equipment, including repairs to ensure that it is fit for purpose.</p>	<p>K8, K9, K10, S3, S5, S8, S10, B4,</p>	<p>3 days</p>
<p>Duty 7 Undertake and maintain stock control including the management of stock records, procurement, inventory, safe receipt, delivery, handling and storage of goods and consumables.</p>	<p>K3, K7, K10 S3, S11, S17 B4, B6</p>	<p>3 days</p>
<p>Duty 8 Facilitate, support and participate in internal or external events such as conferences, exhibitions, public engagements and open days.</p>	<p>K4, K5, K11, K12, K13, S3, S4, S12, S13, B1, B2, B3, B4, B5, B6</p>	<p>3 days</p>
<p>Duty 9 Identify and then use the most suitable IT, technology and digital solution that will best support activities related to teaching, learning and research such as data collection or technology enhanced learning (TEL).</p>	<p>K1 K5 K10, K13 S1, S13, S16, B1 B2</p>	<p>2 days</p>
<p>Duty 10 Support academics, educators and researchers by identifying problems (with equipment, procedures, processes, experiments, creative activities) and offering design solutions (modifications) which may involve the manufacture, construction or assembly of bespoke components which may be used for procedures or experiments or used in exhibitions or events. This includes following testing and integration protocols and other local rules where necessary.</p>	<p>K6, K12, S7, S9, S13, S16, B1, B2, B3, B4, B5</p>	<p>4 days</p>

Option duties: Simulation-based Education Technician

Duty	KSBs	No of Days OTJ
<p>Duty 11 Supports delivery of training sessions using simulated practice and learning such as clinical skills (part-task trainers), Life Support, formative & summative assessment or in-situ simulation.</p>	<p>K1 K2, K3, K5 K12 S1 S2 S3 S4 S7 S9 B3 B4</p>	<p>6 days</p>

<p>Option title/s Simulation- based Education Technician</p>		
<p>Duty 12 Creates moulage /special effects make-up to apply to the manikins and actors working as simulated patients to enhance the realism and the clinical accuracy of individual scenarios.</p> <p>Option title/s Simulation- based Education Technician</p>	<p>K1 K2 K5 K12 S1 S2 S3 S4 S14 B1 B3</p>	<p>7 days</p>
<p>Duty 13 Undertakes the scenario coding (programming) and subsequent operation of human patient simulators, part task trainers and other modes of simulation, such as virtual or augmented reality using specific software and hardware to ensure the quality and realism of the simulation is achieved.</p> <p>Option title/s Simulation- based Education Technician</p>	<p>K1 K2 K3 K5 K6 K10 K12 K13 S1 S3 S5 S6 S7 S15 B4 B5 B6</p>	<p>10 days</p>

Option duties: Higher Education Assistant Technician

Duty	KSBs	No of Days OTJ
<p>Duty 14</p> <p>Set up and assemble equipment or resources for a research or teaching experiment or artistic/creative technique in either Applied Sciences, Engineering or Arts, in a novel configuration or combination, to the required level of precision and detail.</p> <p>Option title/s Higher Education Assistant Technician</p>	<p>K1, K2, K3, K5, K6</p> <p>S1, S3, S6, S9, S17</p> <p>B1, B2</p>	<p>9 days</p>
<p>Duty 15</p> <p>Provide advice and guidance on either resources, creative techniques, materials or equipment to either students or researchers. This will be in specialist areas such as laboratories or the field, workshops, theatres, classrooms, studios, farms or controlled environments</p> <p>Option title/s Higher Education Assistant Technician</p>	<p>K1, K2, K3, K6, K12</p> <p>S9, S14</p> <p>B3</p>	<p>8 days</p>
<p>Duty 16</p> <p>Develop and collate appropriate representations of information, such as experimental data or realistic visualisations, derived from experimental work or creative process, and manipulate them into appropriate formats (tables, graphs, catalogues, indices, and portfolios) for publication.</p> <p>Option title/s Higher Education Assistant Technician</p>	<p>K4, K10, K13</p> <p>S12, S13</p> <p>B4, B5</p>	<p>6 days</p>

KSBs

Knowledge

K1: Which materials, equipment / machinery / tools, are needed for teaching, learning or research activities.

K2: The relevant protocols and Standard Operating Procedures for teaching, learning or research activities, why they are using them and the context in which they are using them. This includes procedures for laying out materials for practical and/or research activities and protocols and standard operating procedures related to clearing up following practical and / or research activities.

K3: The relevant health and safety legislation and practice, the context in which they are applied and how and when to escalate concerns.

K4 : How their role fits into the organisation and the impact that it has.

K5 : The different approaches and techniques required to demonstrate or facilitate for different audiences.

K6 : How to troubleshoot situations, systems, equipment or apparatus and when and how to escalate issues related to situations or systems or equipment or apparatus.

K7: The principles of housekeeping and its purpose including the implications of non-compliance, the need to maintain accurate records and the channels available and appropriate to address an issue.

K8 : The purpose of the monitoring and maintenance schedule, how regulations, systems and procedures support the activity and the implications of non-compliance.

K9 : Protocols and Standard Operating Procedures specifically in place for basic repairs to equipment, when to escalate repairs that are more complex and the appropriate place to escalate them to. This includes an understanding of why it is important to keep accurate records of equipment with their repair and service history and the correct channels to use when addressing issues identified through monitoring and maintenance.

K10 : Local operational systems and the software that is required to support them including stock control management and maintenance of records.

K11 : The importance of the range of technical activities that support events and key activities not directly related to delivering teaching or learning and research within the timetable

K12 : The range of key stakeholders for example students, academic staff, clinical staff, the general public, professional services staff and technical colleagues and the range of communication techniques and approaches to interact with them in order to meet stakeholder requirements including how current technologies can support communication and the most effective way of using these. This also requires an understanding of evolving techniques and technologies and the impact they may have on practice i.e. emerging technology integration.

K13 : The principles of evaluation and the channels for continuous improvement.

Skills

- S1** Identify, prepare and lay out/set up relevant required materials/ equipment /machinery /tools using relevant protocols/Standard Operating Procedures for the purposes of teaching, learning or research activities.
- S2:** Clearing up materials/ equipment /machinery /tools using relevant protocols and standard operating procedures specific to clearing up.
- S3:** Work safely, complying with relevant Health and Safety and local regulations or policies, escalating issues where relevant.
- S4:** Demonstrate or facilitate the use of materials/ equipment /machinery /tools and equipment to meet the needs of the audience.
- S5:** Respond to specific enquiries about appropriate protocols and Standard Operating Procedures, basic techniques and equipment and their safe use and being able to escalate to senior technical colleagues when further clarification is required.
- S6:** Manufacture, construct or assemble both standard and bespoke components and demonstrate how these components integrate into larger research and teaching systems and equipment.
- S7:** Use creative thinking and problem solving to build on existing or new ideas in the teaching, learning or research environment based on expertise and context.
- S8:** Monitor and deliver key activities such as maintenance during a practical class and the accurate records that need completing in relation to this.
- S9:** Identifying the needs and then fulfil the needs of a person or group requiring information, documentation or resource. Such as a student unsure of a piece of equipment during a laboratory studio or workshop teaching session.
- S10:** Carry out basic repairs in line with specified protocols/Standard Operating Procedures and keep accurate records where appropriate. Refer more complex or critical repairs where appropriate.
- S11:** Planning, monitoring and maintaining appropriate stocks of materials and equipment.
- S12:** Prepare documentation and materials for all types of wider teaching or learning or research activities and events as required.
- S13:** Communicate with key stakeholders (such as students, academics, clinicians or research staff, the general public, professional services staff and technical colleagues) using a range of techniques such as email, visual posters, verbal instructions to support teaching, research, wider activities.
- S14:** Use and apply current and emerging technologies and techniques such as microscopy, printing or virtual reality to support teaching, learning and research.
- S15:** Working at times under pressure to raise and resolve areas of concern such as malfunctioning equipment, always working to best practice.
- S16:** Being able to accept and deal with changing priorities related to both their own work and to the organisation, showing the flexibility to maintain high standards in a changing environment.
- S17:** Organising work and achieving required results within deadlines.

Behaviors

B1: Commitment to continued professional development (CPD)

B2: Embracing Change

B3: Commitment to inclusive team working where everyone's viewpoint is respected

B4: Accountability/Ownership of tasks/workload

B5: Commitment to Ethical Standards and relevant Codes of Conduct (Established moral principles that govern a person's behavior or the conducting of an activity) and integrity

B6: Culture of punctuality at work and in all activities

Additional information

Proposed Route:

Education and Childcare

Typical duration of apprenticeship (months):

At least 18 months

Proposed occupational Level:

3

Please select the end-point assessment method/s likely to be used to assess competence against the KSBs as a whole:

Observation based Practical demonstration

Discussion based on professional portfolio

Project based presentation

Testing knowledge & Understanding

Qualifications & professional recognition

English and Maths qualifications

Level 3 and above apprenticeships

Level 3 and above apprenticeships Apprentices without level 2 English and maths will need to achieve this level prior to taking the End-Point Assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.

Other mandatory qualifications

[Does the apprenticeship include any mandated qualifications in addition to the above-mentioned English and maths qualifications?](#)

The HE Assistant Technician Option includes Mandatory qualifications, The Simulation-Based Education Technician Option does not include Mandatory Qualifications

Mandatory qualification 1 (HE ASSISTANT TECHNICIAN OPTION ONLY)

Irrespective of the type of qualification please indicate the basis on which you wish to mandate it

Professional body requirement

Type 2 off-the-job qualification

These include

BTEC Nationals Level 3 Applied Science

BTEC Nationals Level 3 Engineering

BTEC Nationals Art & Design

AS PART OF THE CONSULTATION Please identify any additional relevant qualifications you think we should include

Level of qualification

3

Is the qualification Ofqual regulated

Yes

Evidence for mandating the qualification

To be included

Regulatory or professional body

Regulatory or professional body 1

Institute of Science and Technology

Contact

<https://istonline.org.uk/>

Regulatory or professional body 2

Association for Simulated Practice in Healthcare

Contact

<https://aspih.org.uk/>

Entry requirements

Are there any statutory/regulatory or other typical entry requirements?:

Apprentices without a level 2 English and Mathematics will need to achieve this level prior to completion of their apprenticeship.

Professional recognition

Does this standard align to any professional recognition?

Yes

Please specify which Professional Body or Bodies recognise this standard and at what level

Professional Body 1: Institute of Science and Technology
(RSci Tech)

Professional Body 2: Association for Simulated Practice in Healthcare

Consultation

Consultation Summary

To be completed after consultation