

End-point assessment plan for VFX artist or technical director apprenticeship standard

Apprenticeship standard number	Apprenticeship standard level	Integrated end-point assessment
ST0902	6	No

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Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the VFX artist or technical director apprenticeship standard. It explains how EPA for this apprenticeship must operate.

This document provides the EPA design requirements for end-point assessment organisations (EPAOs) for this apprenticeship standard. It will also be useful for apprentices undertaking this apprenticeship, their employers and training providers.

EPA must be conducted by an EPAO approved to deliver EPA for this apprenticeship standard. Each employer should select an approved EPAO from the Education & Skills Funding Agency's Register of end-point assessment organisations (RoEPAO).

Full-time apprentices will typically spend 18 months on-programme (before the gateway) working towards this occupational standard. All apprentices must spend a minimum of 12 months on-programme. All apprentices must spend a minimum of 20% of on-programme time undertaking off-the-job training.

Before starting EPA, an apprentice must meet the gateway requirements. For this apprenticeship they are:

- the employer must be content that the apprentice is working at or above the occupational standard
- apprentices must have achieved all qualifications mandated in the VFX artist or technical director occupational standard

The qualifications required are:

- apprentices must have achieved English and mathematics at Level 2¹

The EPAO must confirm that all required gateway evidence has been provided and accepted as meeting the gateway requirements. The EPAO is responsible for confirming gateway eligibility. Once this has been confirmed, the EPA period starts.

This EPA should then be completed within an EPA period lasting typically for 6 months.

This EPA consists of 2 discrete assessment methods.

It will be possible to achieve the following grades in each end-point assessment method:

Assessment method 1: Project, presentation, and questions

- fail
- pass
- distinction

¹ For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

Assessment method 2: Professional discussion underpinned by a portfolio

- fail
- pass
- distinction

Performance in the end-point assessment methods will determine the overall apprenticeship standard grade of:

- fail
- pass
- distinction

EPA summary table

On-programme (typically 18 months)	<p>Training to develop the knowledge, skills, and behaviours (KSBs) of the occupational standard.</p> <p>Training towards English and mathematics Level 2, if required.</p> <p>Compiling a portfolio of evidence.</p>
End-point assessment gateway	<p>The employer must be content that the apprentice is working at or above the level of the occupational standard.</p> <p>Apprentices must have achieved all qualifications mandated in the VFX artist or technical director occupational standard. The qualifications required are:</p> <p>Apprentices must have achieved English and mathematics at Level 2.</p> <p>Apprentices must submit:</p> <ul style="list-style-type: none"> • the project's title and scope and the EPAO will be required to confirm its suitability • a portfolio of evidence
End-point assessment (typically 6 months)	<p>Assessment method 1: Project, presentation and questions, graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction <p>Assessment method 2: Professional discussion underpinned by a portfolio, graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction <p>Overall EPA/ apprenticeship graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction

Length of EPA period

The EPA will be completed within an EPA period lasting typically for 6 months, starting when the EPAO has confirmed that all gateway requirements have been met.

Order of end-point assessment methods

The assessment methods can be delivered in any order.

The result of one assessment method does not need to be known before starting the next.

Gateway

The apprentice should only enter the gateway once the employer is content that the apprentice is working at or above the occupational standard. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

The EPAO determines when all gateway requirements have been met, and the EPA period will only start once the EPAO has confirmed this.

In addition to the employer's confirmation that the apprentice is working at or above the level of the occupational standard, the apprentice must have completed the following gateway requirements prior to starting EPA:

- achieved English and mathematics at Level 2.
For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

For the project, presentation and questions, the apprentice will be required to submit:

- the project's title and scope and the EPAO will be required to confirm its suitability

For the professional discussion underpinned by a portfolio, the apprentice will be required to submit:

- a portfolio

Portfolio of evidence requirements:

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- it must contain evidence related to the KSBs that will be assessed by the professional discussion underpinned by a portfolio
- the portfolio of evidence (showreel/ demo reel) will typically contain 2 - 3 completed assets, effects, shots or sequences and the supporting documentation
- evidence must be mapped against the KSBs
- evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested
- evidence sources may include:
 - work products including the brief and concept art
 - work instructions
 - safety documentation
 - company policies and procedures as appropriate to the activities
 - reference materials & research undertaken
 - workplace documentation/ records, for example workplace policies/ procedures, records
 - colleague feedback/ statements
 - iteration/ test approaches
 - annotated screenshots

This is not a definitive list; other evidence sources are possible.
- it should not include reflective accounts or any methods of self-assessment
- any employer contributions should focus on direct observation of performance (for example colleague feedback/ statements) rather than opinions
- the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
- the portfolio of evidence must be submitted to the EPAO at the gateway

The portfolio of evidence is not directly assessed. It underpins the professional discussion and therefore should not be marked by the EPAO. EPAOs should review the portfolio of evidence in preparation for the professional discussion but are not required to provide feedback after this review.

Where there are commercial sensitivities, evidence may not be available in advance of the assessment (the independent assessor will need to view any confidential material during the professional discussion).

End-point assessment methods

The apprentice will be assessed against the KSBs assigned to the assessment methods outlined below, as shown in the mapping section of this EPA plan.

Assessment method 1: Project, presentation and questions

Overview

A project involves the apprentice completing a significant and defined piece of work that has a real business benefit. The project must be undertaken after the apprentice has gone through the gateway.

The project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs to be assessed for the EPA. The employer will ensure it has a real business application and the EPAO will ensure it meets the requirements of the EPA, including suitable coverage of the KSBs assigned to this assessment method as shown in the mapping of assessment methods. The EPAO must refer to the grading descriptors to ensure that projects are pitched appropriately.

This assessment method includes two components:

- a project, whereby the apprentice produces a VFX asset, effect, shot or sequence
- a presentation describing the development of the VFX asset, effect, shot or sequence followed by supplementary questions

The rationale for this assessment method is:

- it will test KSBs holistically and reflects the project work undertaken in the occupation. It will enable the demonstration of skills and behaviours whilst also ensuring underpinning knowledge through the presentation and questions. Apprentices produce visual effect assets, effects, shots, or sequences in their day-to-day function and will present these to colleagues and clients during daily meetings
- this method will ensure valid, reliable and authentic assessment

The evidence from the project and presentation and responses to questions will be assessed holistically.

Component 1 - Project

Delivery

Apprentices will conduct a project, creating a VFX asset, effect, shot or sequence.

The project may be based on interpretation of a brief as part of an ongoing VFX project and produce the required asset, effect, shot or sequence applicable to the apprenticeship option taken:

- Option 1 VFX Simulation
- Option 2 VFX Rigging
- Option 3 VFX Lighting shading and look development
- Option 4 VFX Environments

The EPAO should sign off the project's title and scope to confirm its suitability at the gateway. The employer must also be involved in confirming that the project title is appropriate.

The project starts after the apprentice has gone through the gateway. The typical duration of the project should be 15 weeks and consist of typically 120 hours of work.

The employer should ensure the apprentice has sufficient time and the necessary resources, within this period, to plan and undertake the project.

As a minimum, all projects must include: The production of a VFX asset, effect, shot or sequence and an accompanying breakdown for one of the following:

Option 1: VFX Simulation

Design and create a crowd effect, physical effect or creature effect to meet the requirements of the production. This should include the development of a one off, bespoke or reusable effect using FX animation, procedural simulation, dynamic simulation, particle and fluid systems. The effect should be typically 20-30 seconds in length. One of the following is required as a minimum:

- Crowd effect – 3 agents
- Physical effect – 3 layers
- Creature – 3 types of hair/fur
- Cloth – 3 costume items

Option 2: VFX Rigging

Develop and create rigging VFX work to meet the requirements of the VFX pipeline, applying knowledge of the mechanics of movement and anatomy to underpin the creation of skeletal and muscle systems. This should include: test, optimise, document and maintain automated, user friendly and optimised rigs and interfaces, collaborating with departments up and down-stream throughout the complete workflow process. The run through of the rig should typically cover 5-7 poses.

Option 3: VFX Lighting shading and look development

Control the interactions between material properties, surfaces, and lighting by utilising custom and standardised shaders to develop the look. This should include the creation of computer-generated lighting, shading and rendering to meet the needs of the production, applying knowledge of lighting techniques and colour-space. The VFX shot or sequence should be typically 20-30 seconds in length.

Option 4: VFX Environments

Create high quality environment assets that include architecture, nature, and geographical features using high resolution models, digital matte paintings, textures, projections and lights to meet technical and artistic requirements. The apprentice should take the lead on scene assembly and set dressing and collaborate with the art department to establish the

aesthetic of an environment. The VFX shot or sequence should be typically 20-30 seconds in length.

All options

Please note that the breakdown is not included in the typical durations or rig run through outlined above.

The project must map, in an appendix, how it evidences the relevant KSBs for this assessment method.

The project will be conducted as follows:

- in the apprentice's usual working environment.

The apprentice should complete their project unaided. When the asset, effect, shot or sequence is submitted, the apprentice and their employer must verify that the submitted project is the apprentice's own work.

The independent assessor will review and assess the project holistically together with the other components of this assessment method.

The independent assessor will make all grading decisions.

Component 2 – Presentation and questions

Delivery

The presentation will focus on the creation of the VFX asset, effect, shot or sequence and will cover:

- an introduction
- the scope of the project
- how the VFX asset, effect, shot or sequence was created and met the brief
- how any reference materials or pre cursor assets from earlier in the pipeline were used
- techniques and methods used to create any new assets or to alter existing assets
- options they considered – reflect on why they approached it in the way that they have
- justify the approach and processes taken to create the asset, effect, shot or sequence
- demonstrate how they collaborated with other departments. They may wish to include examples of work being used by other departments

The presentation content will be completed and submitted after the gateway and will be presented to an independent assessor, either face-to-face or via online video conferencing.

The presentation content must be submitted with the project to allow the independent assessor sufficient time to review it and prepare appropriate questions.

The EPAO must give the apprentice 2 weeks' notice of the presentation.

The presentation will last for 60 minutes split 30 minutes for the presentation and 30 minutes for questions at the end of the presentation. The independent assessor has the

discretion to increase the time of the presentation by up to 10% to allow the apprentice to complete their last point.

The independent assessor will ask a minimum of 6 questions at the end of the presentation. Follow-up questions are allowed and do not form part of the question number count.

The purpose of the questions will be:

- for clarification
- to assess the depth and breadth of understanding

The independent assessor will use the questions from a question bank supplied by the EPAO as a guide to tailor their own questions based on the presentation. They will use them to confirm their understanding of the presentation and how it demonstrates the relevant KSBs.

To deliver the presentation, the apprentice will have access to:

- a computer or have screen sharing and file sharing capability
- PowerPoint or equivalent
- videos
- interactive demonstrations
- notes
- computer
- work products

The presentation will be conducted as follows:

- the presentation will take place on a one-to-one basis between the independent assessor and the apprentice
- the way in which the content of the presentation is delivered is not prescriptive
- the apprentice must outline details of visual aids to be used and specify any equipment required when given notice of the presentation by the EPAO. It is the EPAO's responsibility to ensure that the required equipment is available.
- the EPAO should provide the apprentice with 2 weeks' notice of the presentation

KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

Assessment location

EPAOs must ensure that the presentation and questioning elements are conducted in a suitable controlled environment in any of the following:

- employer's premises
- other suitable venue selected by the EPAO (for example a training provider)

The venue should be a quiet room, free from distraction and external influence.

Video conferencing can also be used to conduct the presentation, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

Only the independent assessor will observe the presentation. A representative from the EPAO may be present when necessary for moderation purposes.

Due to the confidential and commercially sensitive nature of the work carried out by the apprentice, the assessor may be required to sign a non-disclosure agreement.

Question and resource development

Questions must be written by EPAOs and must be relevant to the occupation and employer settings. It is recommended that this be done in consultation with employers of this occupation. EPAOs should maintain the security and confidentiality of their questions when consulting employers. EPAOs must develop test specifications and question banks of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose. The specifications, including questions relating to underpinning KSBs, must be varied, yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- question bank
- assessment specifications

Assessment method 2: Professional discussion underpinned by a portfolio.

Overview

This assessment method has 1 component.

A professional discussion is a two-way discussion which involves both the independent assessor and the apprentice actively listening and participating in a formal conversation. It gives the apprentice the opportunity to make detailed and proactive contributions to confirm their competency across the KSBs mapped to this method.

The rationale for this assessment method is:

- it enables synoptic assessment of knowledge, skills and behaviours. This method also helps to assess apprentices' in-depth understanding of their work and covers aspects of the occupation that are difficult to observe and take place in restricted and confidential settings
- this is a consistent method that applies across work settings in the industry. It is reflective of industry best practice for reporting orally on projects and justifying decisions taken. It also replicates the approach taken to reviewing candidate performance used in industry.

Delivery

This assessment will take the form of a professional discussion which must be appropriately structured to draw out the best of the apprentice's competence and cover the KSBs assigned to this assessment method. It will involve questions that focus on the apprentice's achievements and coverage of prior activity.

The purpose of the questions will be to:

- authenticate evidence, experience and competence
- check underpinning knowledge and understanding

The independent assessor will conduct and assess the professional discussion.

The professional discussion must typically last for 60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must take discussion-based questions from an EPAO question bank that include referencing to the apprentice's portfolio. The independent assessor is expected to use their professional judgement to tailor the questions appropriately. Independent assessors are responsible for generating suitable follow-up questions in line with the EPAO's training and standardisation process. The professional discussion will have a minimum of 10 questions.

The topics and themes that must be covered are the standard of their work and their approach, analysis of scenarios and problem solving.

The professional discussion will be conducted as follows:

- a two-way discussion between the apprentice and independent assessor
- the portfolio of evidence will be used to inform questioning during the professional discussion, and it will not be assessed in its own right

KSBs met and answers to questions, must be recorded by the independent assessor. The independent assessor will make all grading decisions.

Assessment location

The professional discussion should take place in a quiet room, free from distractions and influence.

Video conferencing can be used to conduct the professional discussion, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The professional discussion can take place in any of the following:

- employer's premises
- other suitable venue selected by the EPAO (for example a training provider)

Due to the confidential and commercially sensitive nature of the work carried out by the apprentice, the assessor may be required to sign a non-disclosure agreement.

Question and resource development

Independent assessors are responsible for generating suitable questions in line with the EPAO's training and standardisation process. A question bank must be developed by EPAOs. Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgement to tailor those questions appropriately. The question bank must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- question bank
- structured specification

Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments to the assessment methods for the EPA for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this EPA plan.

Overall EPA grading

All assessment methods are weighted equally in their contribution to the overall EPA grade. Performance in the EPA will determine the apprenticeship grade of fail, pass, or distinction. Independent assessors must individually grade each assessment method, according to the requirements set out in this plan.

EPAOs must combine the individual assessment method grades to determine the overall EPA grade.

Apprentices who fail one or more assessment method will be awarded an overall EPA 'fail'.

In order to gain an overall EPA 'pass', apprentices must achieve a pass in both the assessment methods.

In order to achieve an overall EPA 'distinction', apprentices must achieve a distinction in both methods.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1: Project, presentation, and questions	Assessment method 2: Professional discussion underpinned by a portfolio	Overall grading
Any grade	Fail	Fail
Fail	Any grade	Fail
Pass	Pass	Pass
Pass	Distinction	Pass
Distinction	Pass	Pass
Distinction	Distinction	Distinction

Any grade = fail, pass, or distinction

Re-sits and re-takes

Apprentices who fail one or more assessment method/s will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The timescales for a re-sit/re-take is agreed between the employer and EPAO. A re-sit is typically taken within 4 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 6 months of the EPA outcome notification.

All assessment methods must be taken within a 6-month period, otherwise the entire EPA will need to be re-sat/re-taken.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

Roles and responsibilities

Role	Responsibility
Apprentice	<p>As a minimum, apprentices should:</p> <ul style="list-style-type: none"> • participate in and complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months • undertake 20% off-the-job training as arranged by the employer and training provider • understand the purpose and importance of EPA • undertake the EPA including meeting all gateway requirements
Employer	<p>As a minimum, employers should:</p> <ul style="list-style-type: none"> • select the EPAO and training provider • work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs • arrange and support a minimum of 20% off-the-job training to be undertaken by the apprentice • decide when the apprentice is working at or above the occupational standard and so is ready for EPA • ensure that all supporting evidence required at the gateway is submitted in accordance with this EPA plan • remain independent from the delivery of the EPA • confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner (including providing access to any employer-specific documentation as required, for example company policies) • ensure that the EPA is scheduled with the EPAO for a date and time which allow appropriate opportunity for the KSBs to be met • ensure the apprentice is well prepared for the EPA • ensure the apprentice is given sufficient time away from regular duties to prepare for and complete all post-gateway elements of the EPA, and that any required supervision during this time (as stated within this EPA plan) is in place • where the apprentice is assessed in the workplace, ensure that the apprentice has access to the resources used on a daily basis • pass the certificate to the apprentice
EPAO	As a minimum, EPAOs should:

	<ul style="list-style-type: none"> • confirm the project title and scope • conform to the requirements of this EPA plan and deliver its requirements in a timely manner • conform to the requirements of the Register of End-Point Assessment Organisations (RoEPAO) • conform to the requirements of the external quality assurance provider (EQAP) for this apprenticeship standard • understand the occupational standard • make all necessary contractual arrangements, including agreeing the price of the EPA • develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) • appoint suitably qualified and competent independent assessors • appoint administrators (and invigilators where required) to administer the EPA as appropriate • provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading • provide adequate information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA • arrange for the EPA to take place, in consultation with the employer • where the apprentice is not assessed in the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary • develop and provide appropriate assessment recording documentation to ensure a clear and auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders • have no direct connection with the apprentice, their employer or training provider. In all instances, including when the EPAO is the training provider (i.e. HEI), there must be no conflict of interest • have policies and procedures for internal quality assurance (IQA), and maintain records of regular and robust IQA activity and moderation for external quality assurance (EQA) purposes • deliver induction training for independent assessors, and for invigilators and/or markers (where used) • undertake standardisation activity on this apprenticeship standard for all independent assessors before they
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	<p>conduct an EPA for the first time, if the EPA is updated and periodically as appropriate (a minimum of annually)</p> <ul style="list-style-type: none"> • manage invigilation of apprentices in order to maintain security of the assessment in line with the EPAO's malpractice policy • verify the identity of the apprentice being assessed • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • provide details of the independent assessor's name and contact details to the employer • have and apply appropriately an EPA appeals process • request certification via the Apprenticeship Service upon successful achievement of the EPA
Independent assessor	<p>As a minimum, independent assessors should:</p> <ul style="list-style-type: none"> • be willing to sign a non-disclosure/ confidentiality agreement • have the competence to assess the apprentice at this level and hold any required qualifications and experience in line with the requirements of the independent assessor as detailed in the IQA section of this EPA plan • understand the occupational standard and the requirements of this EPA • have, maintain and be able to evidence up-to-date knowledge and expertise of the subject matter • deliver the end-point assessment in-line with the EPA plan • comply with the IQA requirements of the EPAO • have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI) • attend induction training • attend standardisation events when they begin working for the EPAO, before they conduct an EPA for the first time and a minimum of annually on this apprenticeship standard • assess each assessment method, as determined by the EPA plan, and without extending the EPA unnecessarily • assess against the KSBs assigned to each assessment method, as shown in the mapping of assessment methods and as determined by the EPAO, and without extending the EPA unnecessarily • make all grading decisions • record and report all assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by the EPAO, in a timely manner

	<ul style="list-style-type: none"> • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • mark open (constructed) test answers accurately according to the EPAO's mark scheme and procedures
Training provider	<p>As a minimum, training providers should:</p> <ul style="list-style-type: none"> • work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the knowledge, skills and behaviours as listed in the occupational standard • conduct training covering any knowledge, skill or behaviour requirement agreed as part of the Commitment Statement (often known as the Individual Learning Plan). • monitor the apprentice's progress during any training provider led on-programme learning • advise the employer, upon request, on the apprentice's readiness for EPA • remain independent from delivery of the EPA. Where the training provider is the EPA (i.e. a HEI) there must be procedures in place to mitigate against any conflict of interest

Internal Quality Assurance (IQA)

Internal quality assurance refers to the strategies, policies, and procedures that EPAOs must have in place to ensure valid, consistent, and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:

- have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
- appoint independent assessors who have significant relevant experience and up to date knowledge of the occupation/sector including in the last 2 years
- appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:
 - are at least the same level through qualifications or experience and they can be a VFX generalist
- operate induction training for independent assessors, markers and invigilators
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- where appropriate:
 - provide ongoing training for markers
 - provide ongoing training for invigilators
- undertake standardisation activity on this apprenticeship standard for all independent assessors:
 - before they conduct an EPA for the first time
 - if the EPA is updated
 - periodically as appropriate (a minimum of annually)
- conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades

External Quality Assurance

Option selected: Ofqual

Value for money

Affordability of the EPA will be aided by using at least some of the following practices:

- Use of technology – for example video conferencing where applicable
- Location – for example use of employer premises

Professional body recognition

Professional body recognition is not relevant to this occupational apprenticeship.

Mapping of knowledge, skills, and behaviours (KSBs)

Assessment method 1: Project, presentation, and questions

Core

Knowledge
K1: How to critically analyse and interpret the technical specifications, client requirements, organisational and industry standards and how this evaluation will affect the delivery of the VFX.
K4: Methods used to assess and evaluate VFX processes, tools and workflows to identify limitations, risks and interdependencies, selecting the option that allows for the completion of content within timescales.
K8: The industry and organisational standards that apply when selecting software packages and tools.
K12: The iterative nature of the production and how it can be used to continuously improve and meet the client specification.
Skills
S1: Interpret the brief and identify tangible assets to meet the specifications. Identify the resources required and any interacting factors, in order to meet the specification.
S2: Critically evaluate the brief, checking for any missing information and clarifying the outcomes.
S3: Assess and evaluate the VFX processes and workflow required to complete the tasks within timescales, developing a plan for VFX deliverables.
S5: Apply industry and organisational standards regarding the selection and use of workflows, software packages and tools.
Behaviours
B3: Quality focus that promotes continuous improvement, innovation and creativity to the VFX development process.

Option 1 – VFX Simulation

Knowledge
K15: Practices used to critically evaluate, select and apply the 3D software required for the simulation of, muscle, cloth, particles and Voxel based dynamics e.g Houdini, Maya.
K16: How to apply and interpret mathematical and physical principles (e.g Algebra, Vectors, Matrices, Area, Volume, Density, Speed, Velocity, Acceleration) in the context of CG simulations.
Skills
S14: Develop or adapt simulation setups to achieve required visual quality while working within the time constraints of the production.
S15: Create convincing, naturalistic motion through controlled simulation, tailoring simulation as needed to follow client brief.
S16: Develop programs (shaders) for the purposes of bespoke simulation shading (e.g.VEX / Vops for Mantra).

Option 2 - VFX Rigging

Knowledge
K19: Practices used to critically evaluate the user interface requirements to meet the animators' needs and for technical abstraction of the rig.
K20: Anatomy and skeletal structures (bones/muscles) and mechanical systems.
K21: The different deformation systems and how they layer together (blendshapes/ lattice/ deformers/ skinning).
Skills
S17: Critically analyse and evaluate body shape to select the correct anatomical structure.
S18: Critically assess rigging issues and develop modular scripts to problem solve and automate the rigging process.
S19: Evaluate, select and apply different deformers to create natural deformations in characters and change the positions of vertices in a parent mesh.

Option 3 - VFX Lighting, shading and look development

Knowledge
K24: The physics of light and the mathematics and coding principles that enable replication of real world phenomena in digital environments.
K26: The options for optimising render times, without degradation of the quality required to fulfil the agreed brief for a project.
K27: The variety of material maps (e.g. displacement, bump, diffuse, specular, roughness etc.) and how they can be applied to achieve the correct 'look' for an object, character or environment.
Skills
S21: Utilise or modify shaders to achieve photorealistic or stylised 'neutral renders' of assets that meet the 'look' outlined in the brief.
S23: Deliver lighting shots that work within the given render budget on a particular production.
S25: Evaluate the technical specifications of the production to define and produce the render passes required.

Option 4 - VFX Environments

Knowledge
K29: Practices used to critically evaluate and plan the requirements for 3D modelling, texturing, matte painting, lighting, layout and matchmove to create convincing environments; that are consistent throughout sequences and meet the creative requirements of a project.
K30: Principles of photography and the application of technical aspects e.g. exposure and lenses, how lighting interacts with surfaces to re-create photo-realistic images.
Skills
S26: Apply 3D modelling techniques to layout the scene for camera. Create, refine and correct geometry and integrate assets and textures, ensuring that all assets work within the lighting and colour pipeline requirements of a particular production.

S27: Assess lighting requirements including position and distance of light, shadows, style of lighting for internal or external scenes, day or night and depth of lighting e.g. directional, ambient, spot or volume.

S28: Analyse, select and create detailed and convincing textures free of artefacts that represent real-world surfaces, traits or imperfections.

S29: Evaluate and apply the artistic techniques and/or the 2D (e.g Nuke & Photoshop) and 3D packages (e.g. Blender, Maya, ZBrush & Houdini) and tools to create and layer images. Embed landscapes and architecture seamlessly into scenes.

Assessment method 2: Professional discussion underpinned by a portfolio

Core

Knowledge
K2: How photogrammetry, texture reference and scanning impact on the VFX produced.
K3: The principles of motion picture photography and the factors that affect the film making process including lenses, composition, light, colour, perspective and scale.
K5: The utilisation of industry production tracking tools to interpret and track interacting factors on the project.
K6: The specialisms and disciplines in the VFX pipeline and how these communicate and interact with each across the VFX development process.
K7: Approaches to communication and strategies that can influence others and achieve the production outcome required.
K9: Approaches used to assess and evaluate potential improvements to packages and tools and how best to collaborate on implementation.
K10: How to present work as part of the 'dailies' review process, seeking and acting on feedback for the work produced.
K11: The practices used to research, test and critically analyse results when trialling the latest advancements in technical VFX tools, concepts and techniques within your department and organisation.
K13: The formatting requirements of VFX products to enable them to be reviewed effectively and securely. The importance of meeting development timescales and the wider impact this has on the pipeline, business and resources.
K14: Scripting and coding languages (e.g Python, MEL, PyMEL, VEX etc.) and their application in VFX production and pipelines.
Skills
S4: Take responsibility for competing priorities, multiple stakeholders or projects simultaneously, adapting approach to achieve the required production outcome without impact on relationships or deliverables.

S6: Monitor and evaluate the agreed workflow and methods and make recommendations to improve workflows, packages or tools.
7: Provide VFX work in progress as part of the dailies review process; evaluate and act on feedback to maintain delivery timelines, technical requirements and outputs.
S8: Provide information and rationale for the development of organisational policies, standards and procedures such as confidentiality, security, asset storage, legal and regulatory requirements.
S9: Apply problem solving techniques to determine the root cause of technical challenges, adapt approach whilst recognising the impact this could have on other workflow stages and departments.
S10: Write scripts or code to customise software or pipeline tools, simplify/automate processes or procedurally generate assets. Solve technical or creative problems, improve efficiency and/or reduce errors for the requirements of the project or department.
S11: Research and analyse information to keep-up-to date with the new tools, software, data and other related technology. Critically evaluate how they could impact on personal development and the potential wider impact across the department and organisation.
S12: Present findings and the wider business implications. Adapt communication style to influence and meet the needs of the audience.

Behaviours
B1: Teamwork and Partnership – Works collaboratively with stakeholders and colleagues, developing strong working relationships to achieve common goals. Adopt a flexible approach to working with others and promote mutual respect.
B2: Accountability - Acts professionally when carrying out daily work, actively encourages and supports colleagues, setting personal goals and high performance standards for self. Committed to prioritising and completing work within a set timeframe and to industry standards. Adapts positively to changing work priorities and patterns, ensuring deadlines continue to be met.
B4: Problem solving - Uses initiative to identify issues quickly; enjoys solving complex problems at the root cause and applying appropriate and/or creative solutions.
B5: Self-development - Overcomes problems through a process of reflection and review and by undertaking continuous professional development (CPD) in order to utilise new technological advances in the sector.

Option 1 – VFX Simulation

Knowledge
K17: Approaches used to critically analyse and balance real-world physics and the properties of materials against the limitations of the simulation tools or techniques.
K18: How to interpret, convert and apply scale between different CG software tools.
Skills
S13: Analyse and interpret reference or concept art material, to choose the correct simulation technology/technique, and adapting simulations to output art directed motion, that meets client/project requirements.

Option 2 - VFX Rigging

Knowledge
K22: How the application of modular coding can improve rigs and workflow efficiencies.
K23: The application of linear algebra; vectors and matrices, to optimise rigging.
Skills
S20: Assess the animator's user interface requirements and collaborate with animators to optimise the rig for speed and control.

Option 3 - VFX Lighting, shading and look development

Knowledge
K25: The suitability and limitations of different techniques for using light in computer graphics: point, directional, spot, emissive, ambient, diffuse, specular, key light, rim light, fill light etc. in the context of creating the desired mood from the client brief.
K28: The different types of shader (e.g. vertex, pixel, geometry, tessellation, primitive, mesh etc.) and how they can be used to alter the hue, saturation, brightness or contrast of an image; including producing blur, light bloom and volumetric lighting.

Skills

S22: Analyse requirements and create lighting templates for scenes or sequences that can be utilised by other artists during shot production.

S24: Work with texture and groom artists on the development of the texture maps and/or the hair and fur of an asset; taking responsibility for ensuring that all assets work within the lighting and colour pipeline requirements of a particular production.

Option 4 - VFX Environments

Knowledge

K31: The application of cinematography and composition theory to form, colour, texture, volume, scale, proportion and mass. How these interact with historical, geographical or environmental references to create convincing landscapes or architecture.

K32: The application of camera science, 2.5D projections and 3D lighting to digitally matte painted textures within computer-generated 3D environments, allowing for 3D camera movement.

K33: Environments – The application of VFX terminology relating to colour space such as Linear, Log, rec709 and sRGB colour space.

Skills

S30: Research, source, evaluate and select images to meet the technical requirements of the scene.

Grading Descriptors

Assessment method 1: Project, presentation and questions

KSBs	Pass	Distinction
Core S1, S2, S3, S5, K1, K4, K8, K12, B3	<p>Core</p> <p>Interpret the brief</p> <p>Interprets and critically evaluates the brief and how this affects the delivery of the VFX asset. Checks the information and determines interacting factors and resources required to meet the technical specification, including organisational and industry standards and client requirements. (S1, S2, K1)</p> <p>Evaluate processes and tools</p> <p>Explains methods used to assess and evaluate tools and processes to identify limitations, risks, and interdependencies. Develops a plan for VFX deliverables, selecting the most timely option to enable completion of content within timescales. (S3, K4)</p> <p>Applies industry and organisational standards when selecting and using workflows, software packages and tools to create the asset. Explains how the iterative nature of production and creative approach selected promotes the continuous development and improvement of the quality of the final asset. (S5, K8, K12, B3)</p>	<p>Evaluates how the analysis of the brief enabled them to mitigate potential risks whilst satisfying technical requirements and optimising resources. (S1, S2, K1)</p> <p>Critically analyses the impact of own work on subsequent stages of the pipeline and workflow, recognising the importance of collaboration and interaction with other departments. (S3, K4)</p>

<p>Option 1 S14, S15 S16, K15 K16</p>	<p>Option 1 - VFX Simulation</p> <p>Apply and develop a program in 3D software</p> <p>Critically evaluates, selects, and applies the 3D software to create the simulation asset and develops programs (shaders) and applies bespoke simulation shading. (S16, K15)</p> <p>Setup and create simulation</p> <p>Applies and interprets mathematical and physical principles to create and adapt convincing simulation set up which meets the client brief in terms of time and quality requirements. (S14, S15, K16)</p>	<p>Appraises the agile approach taken to produce the VFX simulation and identifies the potential wider application of the asset across the business. Evaluates how production requirements were balanced against cost, quality, and resources. (S14, S15, K16)</p>
<p>Option 2 S17, S18, S19, K19, K20, K21</p>	<p>Option 2 – VFX Rigging</p> <p>Assess and create rigs</p> <p>Critically evaluates the user interface requirements to meet the animator’s needs and develops modular scripts to address rigging problems and to automate the rigging process. (S18, K19)</p> <p>Select and apply deformers</p> <p>Evaluates, selects, and applies different deformers and deformation systems to create natural deformation within the asset. (S19, K21)</p> <p>Anatomy and body shape</p> <p>Analyses and evaluates anatomy, skeletal structures, mechanical systems, and body shapes to create the anatomical structure. (S17, K20)</p>	<p>Appraises the agile approach taken to produce the VFX rig asset and identifies the potential wider application of the asset across the business. Evaluates how production requirements were balanced against cost, quality, and resources. (S18, K19)</p>

<p>Option 3</p> <p>S21, S23, S25, K24, K26, K27</p>	<p>Option 3 - VFX Lighting, shading and look development</p> <p>Assess and apply lighting requirements</p> <p>Applies the physics of light, mathematics, and coding principles to produce lighting shots that replicate real world phenomena within the production budget. (S23, K24)</p> <p>Evaluate and optimise render</p> <p>Evaluates the technical specification of the production to define the render passes required to achieve the required quality and optimises render times to meet the brief. (S25 K26)</p> <p>Apply tools to achieve the specification</p> <p>Utilises shaders and selects and applies the correct material map to achieve the required look for the object, character, or environment asset. (S21 K27)</p>	<p>Appraises the agile approach taken to produce the VFX asset and identifies the potential wider application of the asset across the business. Evaluates how production requirements for the “look” were balanced against cost, quality, and resources. (S23, S25, K24, K26)</p>
<p>Option 4</p> <p>S26, S27, S28, S29, K29, K30</p>	<p>Option 4 - VFX Environments</p> <p>Evaluate and apply 3D modelling techniques</p> <p>Evaluates and applies 3D modelling techniques to create, refine and produce consistent and convincing environments to meet the creative, colour and lighting requirements of the project. (S26, K29)</p> <p>Understand and apply photography and lighting</p> <p>Assesses the lighting requirements including position, distance, shadows, and style and applied photographic principles to recreate realistic images to meet the technical requirements. (S27 K30)</p>	<p>Appraises the agile approach taken to produce the VFX environment asset and identifies the potential wider application of the asset across the business. Evaluates how production requirements were balanced against cost, quality, and resources. (S26, K29)</p>

	<p>Assess and apply artistic techniques</p> <p>Analyses, selects, and applies artistic techniques and tools to create and layer images and textures to represent real world surfaces and how they embedded landscapes and architecture into scenes. (S29, S28)</p>	
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Assessment method 2: Professional discussion underpinned by a portfolio

KSBs	Pass	Distinction
<p>Core</p> <p>S6, S7, S8, S9, S10, S11, S12, K2, K3, K5, K6, K7, K9, K10, K11, K13, K14, B1, B2, B4, B5</p>	<p>Core</p> <p>VFX principles</p> <p>Articulates how they have considered the principles of motion picture photography and how photogrammetry, texture referencing, and scanning impacted on the VFX produced. (K2, K3)</p> <p>Research and apply news tools/ techniques</p> <p>Explains how they have kept up to date and researched new technical VFX tools, concepts, and techniques and how they have critically evaluated the potential impact of this research on their own role, the department and wider organisation.</p> <p>Explains how they have developed themselves and utilised the learning to overcome problems through collaboration with others and implementation of new technological advances. (S11, K9, K11, B5)</p> <p>Pipeline and workflow management</p> <p>Explains how they have monitored specialisms and disciplines in the VFX pipeline and their interactions. Explains how they have evaluated the workflow and communicated recommendations for improvements to workflows, packages, or tools. (S6, K6)</p> <p>Explains how they have applied the formatting requirements of VFX products and how industry</p>	<p>Critically appraises the use of new technology outside of own team and collaborates with colleagues to develop strategies for adoption across the team or more widely. (S11, K9, K11, B5)</p>

	<p>production tracking tools are utilised to interpret, track and review interacting factors on the project.</p> <p>Explains how they have worked collaboratively and flexibly with multiple stakeholders and took responsibility for delivering competing priorities to meet the required production outcome, timescales and achieve common goals. Explains the wider impact this had on business and pipeline resources. (S4, K5, K13, B1)</p> <p>Communication and presentation</p> <p>Explains how they have provided updates for VFX work in progress as part of the 'dailies' review process and how they evaluated and acted on feedback to maintain delivery timelines, technical requirements and outputs. (S7, K10)</p> <p>Explains the different communication approaches and strategies they have used when presenting findings and how their communication style influenced and met the needs of the audience. (S12, K7)</p> <p>Performance standards and accountability</p> <p>Provides examples of how they have fed into the development of organisational policies, standards, and procedures.</p> <p>Explains how they have actively encouraged and supported colleagues when carrying out daily work and responded positively to changing workflows, working flexibly to deliver competing priorities on time. (S8, B2)</p> <p>Problem solving</p> <p>Describe how they have used their initiative to identify technical issues timeously applied problem-solving techniques to determine the root cause and applied appropriate or creative solutions. (S9, B4)</p> <p>Scripting and coding</p>	<p>Appraises how they have appropriately challenged feedback given on their VFX work, how they proactively provided their own suggestions for improvements and the impact of these being adopted. (S7, K10)</p> <p>Articulates where they have shared identified technical solutions with the wider business. Can describe the evaluation process they undertook when escalating issues, demonstrating a proactive approach to preventing problems arising on a production, and the impact this approach had. (S9, B4)</p>
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<p>Option 1 S13, K17, K18</p>	<p>Articulates how they have developed and applied scripts and code to customise software or pipeline tools to improve efficiency, solve creative problems and/or reduce errors in VFX production. (S10, K14)</p> <p>Option 1 – VFX Simulation</p> <p>Explains how their analysis and interpretation of reference material has influenced their choice of simulation technology, tools, and technique, and how the limitations of these were considered when meeting client/project requirements.</p> <p>Explains approaches used to critically analyse, interpret, convert, and apply scale between different CG software tools, and the balance of real-world physics and the properties of materials required. (S13, K17, K18)</p>	<p>Evaluates and justifies the approach taken to produce VFX simulations and how they have identified improvements that can be made to speed, cost or efficiency while still meeting client/project requirements. (S13, K17, K18)</p>
<p>Option 2 S20, K22, K23</p>	<p>Option 2 - VFX Rigging</p> <p>Explains how they applied modular coding and linear algebra to improve workflows and efficiencies.</p> <p>Explains how they assessed an animator’s user interface requirements and collaborated with them to optimise the rigs for speed and control. (S20, K22, K23)</p>	<p>Evaluates and justifies the approach taken to produce VFX rigs and how they have identified improvements that can be made to speed, cost or efficiency while still meeting animator’s needs. (S20, K22, K23)</p>
<p>Option 3 S22, S24, K25, K28,</p>	<p>Option 3 - VFX Lighting, shading and look development</p> <p>Explains how they analysed the lighting requirements of the brief and considered the suitability and limitations of:</p> <ul style="list-style-type: none"> • different techniques for using light in computer graphics and different types of shader • creating lighting templates to be used by other artists. (S22, K25, K28) <p>Explains how they worked collaboratively with texture and groom artists ensuring that all assets</p>	<p>Evaluates and justifies the approach taken to produce VFX assets for lighting, shading and look development and how they have identified improvements that can be made to speed, cost or efficiency while still meeting other artists’ needs and the brief. (S22, S24, K25, K28)</p>

<p>Option 4 S30, K31, K32, K33</p>	<p>worked within the lighting and colour pipeline requirements of production. (S24)</p> <p>Option 4 - VFX Environments</p> <p>Explains how they researched, sourced, and evaluated images to meet technical scene requirements; and applied cinematography and composition theory and the interaction of these with historical, geographical, or environmental references to create convincing landscapes or architecture. (S30, K31)</p> <p>Explains how they applied camera science, 2.5D projections and 3D lighting to digitally matte painted textures within computer-generated 3D environments, whilst allowing for 3D camera movement. (K32)</p> <p>Describes the VFX terminology that relates to colour space.(K33)</p>	<p>Evaluates and justifies the approach taken to produce VFX environments assets and how they have identified improvements that can be made to speed, cost or efficiency while still meeting technical scene requirements (S30, K31)</p>
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