



Qualification specification

**NCFE Level 3 Certificate in Games Design and
Development**
QN: 603/7518/8

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Summary of changes

This document summarises the changes to this qualification specification since the last version (Version 1.1 June 2022). Please check the NCFE website for the most recent version.

Version	Publication date	Summary of amendments
v1.0	August 2021	First publication
v1.1	June 2022	<p>Further information added to the how the qualification is assessed section to confirm that unless otherwise stated in this specification, all learners taking this qualification must be assessed in English and all assessment evidence presented for external quality assurance must be in English.</p> <p>Information added to the entry guidance section to advise that registration is at the discretion of the centre, in accordance with equality legislation and should be made on the Portal.</p> <p>Information added to the support handbook section about how to access support handbooks.</p>
v1.2	July 2023	Information regarding UCAS added to About this qualification, Qualification Summary.

Section 1

About this qualification

Introduction

This qualification specification contains details of all the units and assessments required to complete this qualification.

To ensure that you are using the most up-to-date version of this qualification specification, please check the version number and date in the page footer against that of the qualification specification on the NCFE website.

If you advertise this qualification using a different or shortened name, you must ensure that learners are aware that their final certificate will state the full regulated qualification title.

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- you may copy and paste any material from this document; however, we do not accept any liability for any incomplete or inaccurate copying and subsequent use of this information
- the use of PDF versions of our support materials on the NCFE website will ensure that correct and up-to-date information is provided to learners
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- the resources and materials used in the delivery of this qualification must be age-appropriate and due consideration should be given to the wellbeing and safeguarding of learners in line with your institute's safeguarding policy when developing or selecting delivery materials

Support handbook

This qualification specification must be used alongside the mandatory support handbook which can be found on the NCFE website. This contains additional supporting information to help with the planning, delivery and assessment

This qualification specification contains all of the qualification-specific information you will need that is not covered in the support handbook.

Qualification summary	
Qualification title	NCFE Level 3 Games Design and Development
Qualification number (QN)	603/7518/8
Aim reference	60375188
Total qualification time (TQT)	270
Guided learning hours (GLH)	180
Minimum age	16
UCAS	This qualification has been allocated UCAS points. Please refer to the UCAS website for further details of the points allocation and the most up-to-date information.
Qualification purpose	<p>The purpose of this qualification is to give learners an introduction to the sector and the associated skills required across design and development roles within the games industry that incorporate both technical and creative knowledge and skills.</p> <p>This qualification is designed for learners who want to increase their knowledge, skills and understanding of both games design and games development and progress into specialist study or employment in the sector.</p>

Qualification summary	
Aims and objectives	<p>This qualification aims to:</p> <ul style="list-style-type: none"> • focus on the study of games design and development • offer breadth and depth of study, incorporating a key core of knowledge • provide opportunities to acquire a number of practical and technical skills <p>The objectives of this qualification are to:</p> <ul style="list-style-type: none"> • understand job roles, organisational structures and self-promotion in the games industry and the associated legal and ethical considerations • understand research typical to pre-production in the games industry and develop game design documentation and any associated supporting materials • understand the principles of level design and be able to design and review a level and its associated lighting and effects • understand the principles of animation and the associated planning, creation and rendering • understand the different types of scripting approaches used in games design and development, develop interactive mechanics and perform testing and quality assurance tasks • understand 3D modelling fundamentals and apply techniques to modelling and to export 3D assets
Work/industry placement experience	Work/industry placement experience is not required.
Real work environment (RWE) requirement/ recommendation	Where the assessment requirements for a unit/qualification allows, it is essential that organisations wishing to operate an RWE do so in an environment that reflects a real work setting and replicates the key characteristics of the workplace in which the skill to be assessed is normally employed. This is often used to support simulation.
Rules of combination	To be awarded the Level 3 Certificate in Games Design and Development, learners are required to successfully complete 6 mandatory units.
Grading	Achieved/not yet achieved
Assessment method	Internally assessed and externally quality assured portfolio of evidence
Progression	<p>Learners who achieve this qualification could progress to:</p> <ul style="list-style-type: none"> • Level 4 Certificate in IT • Level 4 Diploma in Software Development • games design and/or games developer junior roles

Qualification summary	
Regulation information	This is a regulated qualification. The regulated number for this qualification is 603/7518/8.
Funding	This qualification may be eligible for funding. For further guidance on funding, please contact your local funding provider.

Entry guidance

This qualification is designed for learners who want to increase their knowledge, skills and understanding of both games design and games development and progress into specialist study or employment in the sector.

Registration is at the discretion of the centre, in accordance with equality legislation and should be made on the Portal. However, learners should be aged 16 or above to undertake this qualification.

There are no specific prior skills/knowledge a learner must have for this qualification. However, learners may find it helpful if they have already achieved a level 2 qualification.

Centres are responsible for ensuring that this qualification is appropriate for the age and ability of learners. They need to make sure that learners can fulfil the requirements of the learning outcomes and comply with the relevant literacy, numeracy and health and safety aspects of this qualification.

Learners registered on this qualification should not undertake another qualification at the same level with the same or a similar title, as duplication of learning may affect funding eligibility.

Achieving this qualification

To be awarded this qualification, learners are required to successfully achieve **6 mandatory units**.


Please refer to the list of units below or the unit summaries in section 2 for further information.

To achieve this qualification, learners must successfully demonstrate their achievement of all learning outcomes of the units as detailed in this qualification specification. A partial certificate may be requested for learners who do not achieve their full qualification but have achieved at least one whole unit.



Units

To make cross-referencing assessment and quality assurance easier, we have used a sequential numbering system in this document for each unit.

The regulated unit number is indicated in brackets for each unit (for example, M/100/7116) within section 2.

 Knowledge only units are indicated by a star. If a unit is not marked with a star, it is a skills unit or contains a mix of knowledge and skills.

Mandatory units

	Unit number	Regulated unit number	Unit title	Level	GLH
	Unit 01	H/618/7164	Games industry	3	30
	Unit 02	K/618/7165	Research and pre-production in the games industry	3	30
	Unit 03	M/618/7166	Level design in games	3	30
	Unit 04	T/618/7167	Animation in games	3	30
	Unit 05	A/618/7168	Game scripting	3	30
	Unit 06	F/618/7169	3D modelling in games	3	30

The units above may be available as stand-alone unit programmes. Please visit our website for further information.

Progression to higher level studies

This qualification aims to provide learners with a number of progression options, including higher level studies at university or further education (FE) colleges. The skills required to progress to higher academic studies are different from those required at levels 1 and 2. Level 3 qualifications enable the development of these skills. Although there is no single definition of higher level learning skills, they include:

- checking and testing information
- supporting points with evidence
- self-directed study
- self-motivation
- thinking for yourself
- analysing and synthesising information/materials
- critical thinking and problem solving
- working collaboratively
- reflecting upon learning and identifying improvements

Level 3 criteria can require learners to analyse, draw conclusions, interpret or justify, which are all examples of higher level skills. This means that evidence provided for the portfolio will also demonstrate the development and use of higher level learning skills.

If you need any further information, please refer to the NCFE website.

How the qualification is assessed

Assessment is the process of measuring a learner's skill, knowledge and understanding against the standards set in a qualification.

This qualification is internally assessed and externally quality assured.

The assessment consists of one component:

- an internally assessed portfolio of evidence, which is assessed by centre staff and externally quality assured by NCFE (internal quality assurance (IQA) must still be completed by the centre as per usual)

Learners must be successful in this component to gain the NCFE Level 3 Certificate in Games Design and Development (603/7518/8).

Learners who are not successful can resubmit work within the registration period; however, a charge may apply.

All the evidence generated by the learner will be assessed against the standards expected of a level 3 learner for each learning outcome.

Unless stated otherwise in this qualification specification, all learners taking this qualification must be assessed in English and all assessment evidence presented for external quality assurance must be in English.

Internal assessment

Each learner must create a portfolio of evidence generated from appropriate assessment tasks, which demonstrates achievement of all the learning outcomes associated with each unit. The assessment tasks should allow the learner to respond to a real life situation that they may face when in employment. On completion of each unit, learners must declare that the work produced is their own and the assessor must countersign this. Examples of suitable evidence for the portfolio for each unit are provided in section 2.

Internally assessed work should be completed by the learner in accordance with the qualification specification. A representative number of assessment hours should be timetabled into the scheme of work. Internal assessment hours must be administered outside of scheduled teaching and learning hours and should be supervised and assessed by the tutor. Assessment activities can be integrated throughout, although separate from the teaching of the unit, and do not have to take place directly at the end of the unit.

Any work submitted for internal assessment must be completed during scheduled assessment hours in accordance with the scheme of work and must be authenticated and attributable to the learner. The tutor must be satisfied that the work produced is the learner's own.

In practice, this means that all of the portfolio of evidence will be completed in normal class time within scheduled assessment hours and kept separate from any teaching and learning hours.

A centre may choose to create their own internal assessment tasks. The tasks should:

- be accessible and lead to objective assessment judgements
- permit and encourage authentic activities where the learner's own work can be clearly judged
- refer to course file documents on the NCFE website

Supervision of learners and your role as an assessor

Guidance on how to administer the internal assessment and the support you provide to learners can be found on the NCFE website.

Section 2

Unit content and assessment guidance

Unit content and assessment guidance

This section provides details of the structure and content of this qualification.

The types of evidence listed are for guidance purposes only. Within learners' portfolios, other types of evidence are acceptable if all learning outcomes are covered and if the evidence generated can be internally and externally quality assured. For approval of methods of internal assessment other than portfolio building, please contact our quality assurance team.

The explanation of terms explains how the terms used in the unit content are applied to this qualification. This document can be found in section 3.

For further information or guidance about this qualification, please contact our customer support team.

Unit 01 Games industry (H/618/7164)

Unit summary	In this unit learners will understand job roles, organisational structures and self-promotion in the games industry, and the associated legal and ethical considerations attached.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand organisational structures in the games industry

The learner can:

- 1.1 Describe organisational structures within the games industry
- 1.2 Describe job roles and career paths within the games industry. The learner must include:
 - creative roles
 - internal and external production roles
 - technical roles
 - support roles

Learning outcome 2**The learner will:**

- 2 Understand personal and professional development in the games industry

The learner can:

- 2.1 Describe their own attributes, characteristics and transferrable skills in relation to the games industry
- 2.2 Develop self-promotion materials appropriate to a chosen job role

Learning outcome 3**The learner will:**

- 3 Understand legal and ethical considerations affecting the games industry

The learner can:

- 3.1 Explain how groups and individuals are represented in the games industry and its products
- 3.2 Explain legal and ethical considerations associated with the games industry

Assessment guidance

Delivery and assessment

1.1

The learner will be able to describe the organisational structures within the games industry and the relationships between them in the form of a case study in both independent and medium or larger sized companies. Examples of the organisational structures within the games industry can include but are not limited to:

- publishers
- developers
- internal and external production (product owners, marketing, community management)
- creative departments (for example, art, design, animation, audio)
- technical departments (for example, programming, networking, quality assurance)
- support departments (for example, human resources, IT technicians, office management, finance and legal)

1.2

The learner will describe job roles and career paths within the games industry. The learner must include:

- creative roles (for example, level designer, concept artist, character animator, sound designer)
- internal and external production (for example, product owners, marketing, community management)
- technical roles (for example, artificial intelligence (AI) programmer, technical designer, quality assurance (QA) engineer)
- support roles (for example, IT technicians, office management, finance and legal)

2.1

The learner will describe their own attributes, characteristics and transferrable skills in relation to specific job roles within the games industry. Learners could explain the importance of professionalism when working as part of a team/in a specific role in games design.

Learners could demonstrate that they understand the position of developer or designer within the hierarchy of both the specific production process and role that enables others to complete the production successfully.

Examples can include but are not limited to:

- personal attributes:
 - willingness to learn
 - adaptability/flexibility
 - interpersonal skills
 - leadership
 - initiative
- characteristics:
 - leadership
 - fast learner
 - software competence
 - motivated

Delivery and assessment

- transferable skills:
 - project management
 - effective teamwork
 - written communication
 - verbal communication
 - research and analytical skills
 - numeracy skills

2.2

The learner will identify and develop self-promotion materials, including an online portfolio, relevant to a chosen job role in the games industry, which could include both designer and developer roles.

Examples can include but are not limited to:

- business cards
- website
- video showreel of artwork
- links to prototypes
- links to finished games
- video walkthroughs of designed game mechanics

3.1

The learner will discuss representation of groups and individuals within the games industry, and the products produced. Topics for discussion may include but are not limited to:

- archetypal characters in narratives (for example, hero, magician, outlaw, villain)
- stereotypes
- character diversity in games (for example, gender, race)
- diversity in the games industry

3.2

The learner will discuss the various legal and ethical issues to be considered in the games industry. Examples of the considerations within the games industry can include but are not limited to:

- copyright and intellectual property
- privacy
- monetisation:
 - digital distribution
 - physical purchase
 - selling art, audio, or other game assets on digital stores
 - subscription services
- violence and mature content
- games addiction
- psychological manipulation

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation
- online portfolio

Unit 02 Research and pre-production in the games industry (K/618/7165)

Unit summary	In this unit the learner will understand research typical to pre-production in the games industry and develop game design documentation and any associated supporting materials.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand research and pre-production in the design and development of games

The learner can:

- 1.1 Explain the areas of research typical to pre-production and their purpose:

- trends
- target audience
- genre
- art themes
- story
- competitor's games
- platforms

- 1.2 Perform appropriate research to support a game proposal, which must include a:

- competitive analysis report
- pitch document

- 1.3 Develop a game proposal

Learning outcome 2**The learner will:**

- 2 Develop games design documentation

The learner can:

- 2.1 Explain the purpose of a games design document
- 2.2 Create a games design document
- 2.3 Justify choices made in the games design document

Learning outcome 3

The learner will:

3 Develop supporting materials as part of a games design document

The learner can:

3.1 Explain what is meant by supporting materials

3.2 Produce supporting materials for a game design document

3.3 Justify their choice of supporting materials as part of the games design document

Assessment guidance

Delivery and assessment

1.1

The learner must be able to explain the areas of research typical to pre-production in games design and explain the main purpose of each area accurately. These areas of research must include but are not limited to:

- trends
- target audience
- genre
- art themes
- story
- competitor's games
- platforms

1.2

The learner must be able to perform appropriate primary and secondary research in response to a brief to include research into the following:

- competitive analysis report
- pitch document

1.3

The learner will develop a games design document in response to a brief. This games design document must be in an appropriate format relevant to the idea outlined in the proposal. Development of the proposal could consider legal implications of the document and the intellectual property rights of the content (for example, legal right to use the images).

2.1

The learner must be able to explain the purpose of a games design document and describe the role a games design document has in the development of a game.

2.2

The learner must create a games design document in response to a brief in an appropriate format that may include but is not limited to the following areas:

- target audience

Delivery and assessment

- genre
- game mechanics
- level design
- narrative
- in-game challenges
- in-game hazards
- concept art
- in-game environment
- goals and objectives
- characters and non-player characters (NPCs)

2.3

The learner must be able to justify the choices made in their games design document, making connections between their choices and the brief.

3.1

The learner must be able to explain the purpose of supporting materials. Examples of supporting materials can include but are not limited to:

- mood boards
- sketches
- thumbnails
- silhouettes
- mock-ups
- tables
- diagrams
- concept art
- soundscapes
- audio/visual sequences

3.2

The learner must produce supporting materials for a games design document in an appropriate format relative to the brief.

3.3

The learner will justify their supporting materials approach as part of the game design process in relation to a brief.

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation
- game proposal
- games design document

Unit 03 Level design in games (M/618/7166)

Unit summary	In this unit, the learner will understand the principles of level design and be able to design and review a level and its associated lighting and effects.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand the principles of level design

The learner can:

- 1.1 Explain the principles for the development of an engaging level:

- goals and objectives
- pacing
- obstacles
- game balancing
- difficulty level
- narrative structure

- 1.2 Explain principles of player visual interaction cues and language used in games

Learning outcome 2**The learner will:**

- 2 Be able to design and review a level in response to a brief

The learner can:

- 2.1 Plan a level using appropriate principles and pre-production techniques

- 2.2 Develop a level using appropriate techniques and pre-production techniques:

- blockout/white box level design
- event scripting
- level outline
- sketches
- mood boards
- concept art

- 2.3 Apply appropriate quality assurance testing and evaluate their findings

Learning outcome 3

The learner will:

3 Understand the role of lighting and effects in level design

The learner can:

- 3.1 Describe appropriate lighting and effects in level design
- 3.2 Implement appropriate lighting to complement level design
- 3.3 Implement appropriate effects to enhance level design

Assessment guidance

Delivery and assessment

1.1

The learner will be able to identify the principles used in the development of an engaging level, using well-chosen examples from existing games.

1.2

The learner will identify and analyse products and occurrences where player cues and visual language have been used to enhance level design.

2.1

The learner will be able to plan a level design in relation to a brief. The planning will be developed using appropriate principles and pre-production techniques and may include the following:

- principles:
 - play
 - reward
 - fidelity
 - constraints
 - success criteria
- pre-production techniques:
 - level outline
 - sketches
 - mood boards
 - concept art

2.2

The learner will develop a level ensuring they refer to their planning. They should use appropriate techniques in relation to a brief that must include but is not limited to:

- blockout/white box level design
- event scripting
- level outline
- sketches
- mood boards
- concept art

Delivery and assessment**2.3**

The learner will apply appropriate testing techniques as part of quality assurance of their level design and document and evaluate their findings. Methods of documenting testing may include but are not limited to:

- gameplay recording
- interviews
- focus groups
- questionnaires

3.1

The learner will describe appropriate lighting and effects in level design, including but not limited to:

- player attention and guidance (for example, direction areas lit to support gameplay)
- atmosphere and mood (for example, using light to create atmosphere and mood)
- progression of time (for example, day and night cycles)

3.2

The learner will implement appropriate lighting to complement and enhance a level design in relation to a brief.

3.3

The learner will implement appropriate effects to enhance a level design in relation to a brief. Effects implemented may include but are not limited to:

- sound effects
- music
- particles
- post-processing effects

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation

Unit 04 Animation in games (T/618/7167)

Unit summary	In this unit, the learner will understand the principles of animation in the games industry and the associated planning, creation and rendering.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand the principles of animation

The learner can:

- 1.1 Describe the principles of animation:

- squash and stretch
- anticipation
- ease in/ease out
- staging
- straight ahead and pose to pose
- follow through and overlapping action
- arc
- secondary action
- timing
- exaggeration
- solid drawings
- appeal

- 1.2 Explain animation techniques:

- key frame
- motion capture
- rotoscoping
- frame by frame
- stop motion

Learning outcome 2**The learner will:**

2 Understand the planning and creation of 3D animations

The learner can:

2.1 Develop planning documentation for a 3D animation:

- sketches
- storyboards
- thumbnails
- animatic

2.2 Develop a 3D animation using appropriate techniques

Learning outcome 3**The learner will:**

3 Understand rendering techniques used in 3D animation

The learner can:

3.1 Apply appropriate lighting

3.2 Select appropriate render set up

3.3 Perform rendering with a relevant render output

Assessment guidance**Delivery and assessment****1.1**

The learner will describe the principles of animation using annotated examples to illustrate.

1.2

The learner will explain animation techniques.

2.1

The learner will develop appropriate planning documentation for a 3D animation in relation to a brief that must include the following:

- sketches
- storyboards
- thumbnails
- animatic

2.2

The learner will develop a 3D animation ensuring they refer to their planning and use appropriate techniques in relation to a brief. Appropriate techniques can include but are not limited to:

Delivery and assessment

- key frame
- motion capture
- rotoscoping
- frame by frame
- stop motion

3.1

The learner must be able to select and apply appropriate lighting to a 3D animation while considering the following associated properties, including but not limited to:

- shadows
- colour
- intensity
- radius
- angle

3.2

The learner will be able to select the render set up for their 3D animation appropriate to their chosen render engine, considering aspects that could include:

- global illumination
- sample qualities
- sample size
- noise threshold
- motion blur
- depth of field
- anti-aliasing

3.3

The learner will be able to perform rendering using suitable render output settings relevant to their chosen platform (for example, cinema, mobile devices, streaming services). Learners could consider aspects including but not limited to:

- output resolution
- render times
- aspect ratio
- file formats
- frame rate

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation
- animation

Unit 05 Game scripting (A/618/7168)

Unit summary	In this unit the learner will understand the different types of scripting approaches used in games design and development, develop interactive mechanics, and perform testing and quality assurance tasks.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand the different types of scripting approaches used in game design and development

The learner can:

- 1.1 Compare different scripting and coding approaches used in contemporary game engines
- 1.2 Select an appropriate scripting approach
- 1.3 Describe relevant support and documentation for a chosen scripting approach

Learning outcome 2**The learner will:**

- 2 Be able to script interactions and mechanics in a game engine

The learner can:

- 2.1 Explain common terminology used within scripting:
 - events
 - variables
 - functions
 - loops
 - arrays
 - collisions
 - triggers
 - input actions
 - axis mapping
 - script communication
- 2.2 Plan the scripting of interactive mechanics in a game engine
- 2.3 Develop interactive mechanics in a game engine

Learning outcome 3

The learner will:

3 Understand functionality testing and quality assurance used in game development

The learner can:

3.1 Explain the purpose of functionality testing and quality assurance in games design

3.2 Perform tests and document results within a quality assurance report

3.3 Implement the results of functionality testing within the quality assurance report

Assessment guidance

Delivery and assessment

1.1

The learner will be able to compare different visual scripting and coding approaches used in contemporary game engines, identifying the pros and cons of both approaches.

1.2

The learner will select an appropriate scripting approach for the development of game mechanics in relation to a brief.

1.3

The learner will describe relevant support and documentation for a chosen scripting approach. The support identified may include:

- official documentation
- forums
- community resources
- books/journals
- online training resources

2.1

The learner will be able to explain common terminology used within scripting languages in relation to game development, which must include:

- events
- variables
- functions
- loops
- arrays
- collisions
- triggers
- input actions
- axis mapping
- script communication

Delivery and assessment**2.2**

The learner will plan the development of game mechanics by selecting appropriate scripting techniques in relation to a brief.

2.3

The learner will develop interactive mechanics in a contemporary game engine using appropriate scripting techniques in relation to a brief.

3.1

The learner will explain the purpose of functionality testing and quality assurance in games design.

3.2

The learner will perform testing and quality assurance on a series of games mechanics and document results within an appropriate format.

3.3

The learner will implement the results of functionality testing and quality assurance report.

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation

Unit 06 3D modelling in games (F/618/7169)

Unit summary	In this unit the learner will understand 3D modelling fundamentals in games design and apply techniques to modelling and to export 3D assets.
Guided learning hours	30
Level	3
Mandatory/optional	Mandatory

Learning outcome 1**The learner will:**

- 1 Understand 3D modelling fundamentals

The learner can:

- 1.1 Describe the fundamentals of 3D modelling:
 - topology
 - edgeflow
 - asset silhouettes
 - ngons
 - non-uniform rational basis spline (NURBS) box modelling
 - organic modelling
 - hard surface modelling
- 1.2 Apply appropriate 3D modelling techniques to create a series of 3D assets

Learning outcome 2**The learner will:**

- 2 Understand materials and texturing techniques required in 3D modelling

The learner can:

- 2.1 Explain industry practices and processes used in material and texturing techniques
- 2.2 Develop and apply materials and textures for 3D assets

Learning outcome 3

The learner will:

3 Understand processes and industry practices in exporting 3D assets

The learner can:

3.1 Explain processes and industry practices when exporting 3D assets:

- embedded media
- polygon counts
- smoothing groups
- unit scale
- pivot point and orientation
- naming conventions
- file formats

3.2 Plan and export a series of 3D assets

3.3 Review and revise the final exported 3D assets

Assessment guidance

Delivery and assessment

1.1

The learner will describe the fundamentals tools and techniques used when creating 3D models for the games industry using annotated examples for each. Tools and techniques must include:

- topology
- edgeflow
- asset silhouettes
- ngons
- NURBS box modelling
- organic modelling
- hard surface modelling

1.2

The learner will apply appropriate 3D modelling techniques to create a series of 3D assets.

2.1

The learner will identify and describe the industry standard processes used in material and texturing creation for 3D assets in the games industry using annotated examples for each. Processes described may include but are not limited to:

- unwrapping
- physically based rendering (PBR)
- shaders
- in engine application
- third-party tools

Delivery and assessment**2.2**

The learner will develop materials and textures for a series of 3D assets using processes appropriate to the games industry in relation to a brief.

3.1

The learner will identify processes and common practices used when exporting 3D assets for use in the games industry. Processes and practices may include:

- embedded media
- polygon counts
- smoothing groups
- unit scale
- pivot point and orientation
- naming conventions
- file formats

3.2

The learner will plan and export a series of 3D assets to be used within a game engine.

3.3

The learner will review a series of exported 3D assets for use in a game engine. Any areas for improvement and development will be identified.

The explanation of terms (section 3) explains how the terms used in the unit content are applied to this qualification.

Types of evidence

Evidence could include:

- research
- reports
- learner written statement
- written or oral questions and answers
- discussion
- assignment
- presentation
- 3D assets

Section 3

Explanation of terms

Explanation of terms

This table explains how the terms used at level 3 in the unit content are applied to this qualification (not all verbs are used in this qualification).

Apply	Explain how existing knowledge can be linked to new or different situations in practice.
Analyse	Break the subject down into separate parts and examine each part. Show how the main ideas are related and why they are important. Reference to current research or theory may support the analysis.
Clarify	Explain the information in a clear, concise way.
Classify	Organise according to specific criteria.
Collate	Collect and present information arranged in sequential or logical order.
Compare	Examine the subjects in detail and consider the similarities and differences.
Critically compare	This is a development of compare where the learner considers the positive aspects and limitations of the subject.
Consider	Think carefully and write about a problem, action or decision.
Demonstrate	Show an understanding by describing, explaining or illustrating using examples.
Describe	Write about the subject giving detailed information in a logical way.
Develop (a plan/idea which...)	Expand a plan or idea by adding more detail and/or depth of information.
Diagnose	Identify the cause based on valid evidence.
Differentiate	Identify the differences between 2 or more things.
Discuss	Write a detailed account giving a range of views or opinions.
Distinguish	Explain the difference between 2 or more items, resources, pieces of information.
Draw conclusions (which...)	Make a final decision or judgement based on reasons.
Estimate	Form an approximate opinion or judgement using previous knowledge or considering other information.
Evaluate	Examine strengths and weaknesses, arguments for and against and/or similarities and differences. Judge the evidence from the different perspectives and make a valid conclusion or reasoned judgement. Reference to current research or theory may support the evaluation.

Explain	Provide detailed information about the subject with reasons showing how or why. Responses could include examples to support these reasons.
Extrapolate	Use existing knowledge to predict possible outcomes that might be outside the norm.
Identify	Recognise and name the main points accurately. (Some description may also be necessary to gain higher marks when using compensatory marking).
Implement	Explain how to put an idea or plan into action.
Interpret	Explain the meaning of something.
Judge	Form an opinion or make a decision.
Justify	Give a satisfactory explanation for actions or decisions.
Perform	Carry out a task or process to meet the requirements of the question.
Plan	Think about and organise information in a logical way using an appropriate format.
Provide	Identify and give relevant and detailed information in relation to the subject.
Reflect	Learners should consider their actions, experiences or learning and the implications of this for their practice and/or professional development.
Review and revise	Look back over the subject and make corrections or changes.
Select	Make an informed choice for a specific purpose.
Show	Supply evidence to demonstrate accurate knowledge and understanding.
State	Give the main points clearly in sentences or paragraphs.
Summarise	Give the main ideas or facts in a concise way.

Section 4

Additional information

Additional information**Resource requirements**

There are no mandatory resource requirements for this qualification, but centres must ensure learners have access to suitable resources to enable them to cover all the appropriate learning outcomes.

Support for learners**Learner's evidence tracking log (LETL)**

The LETL can help learners keep track of their work. This blank document can be downloaded free of charge from the NCFE website. You do not have to use the LETL, you can devise your own evidence tracking document instead.

Qualification factsheet

This document outlines the key information of this qualification for the centre, learner and employer.

Learning resources

We offer a wide range of learning resources and materials to support the delivery of our qualifications. Please check the qualifications page on the NCFE website for more information and to see what is available for this qualification.

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