

Cambridge TECHNICALS LEVEL 2

**IT**

Unit 15

Games creation

L/615/1436

Guided learning hours: 60

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## LEVEL 2

### UNIT 15: Games creation

L/615/1436

**Guided learning hours:** 60

**Essential resources required for this unit:** Learners should have access to any software that allows them to access the requirements of the unit.

**This unit is internally assessed and externally moderated by OCR.**

#### UNIT AIM

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Game design is a popular area within the industry that continues to develop new concepts and technologies, attracting a much wider diverse audience with multiple requirements for multiple platforms.

The aim of the unit is to give you the opportunity to use the fundamentals of game design. You will acquire the skills to produce games from game designs and explore how to enhance the games by incorporating additional features.

This is an optional unit within the Award in Digital Business and is mandatory within the Digital Software Practitioner pathway in the Diploma.

## TEACHING CONTENT

The teaching content in every unit states what has to be taught to ensure that learners are able to access the highest grades.

Anything which follows an i.e. details what must be taught as part of that area of content. Anything which follows an e.g. is illustrative, it should be noted that where e.g. is used, learners must know and be able to apply relevant examples in their work, although these do not need to be the same ones specified in the unit content.

For internally assessed units you need to ensure that any assignments you create, or any modifications you make to an assignment, do not expect the learner to do more than they have been taught, but must enable them to access the full range of grades as described in the grading criteria.

Learning outcomes	Teaching content
The Learner will:	Learners must be taught:
1. Know the fundamentals of games design	1.1. Different types (genres) of games, e.g.: <ul style="list-style-type: none"> <li>• adventure</li> <li>• combat</li> <li>• puzzle</li> <li>• racing</li> <li>• role-play</li> <li>• simulation</li> <li>• sports</li> <li>• Strategy</li> </ul> 1.2. Maintaining player's interest, e.g.: <ul style="list-style-type: none"> <li>• competitive (e.g. high scores, timing, other players)</li> <li>• control method (e.g. standard controllers, motion sensing)</li> <li>• characters</li> <li>• educational</li> <li>• interaction design (GUI)</li> <li>• progression</li> <li>• skill level required</li> </ul> 1.3. Different types of gaming platforms, e.g.: <ul style="list-style-type: none"> <li>• personal computer</li> <li>• smart phones</li> <li>• tablets</li> <li>• online browser</li> <li>• emulator</li> </ul> 1.4. Psychological factors, e.g.: <ul style="list-style-type: none"> <li>• use of sound</li> <li>• use of virtual reality</li> <li>• peer pressure</li> <li>• addictive</li> <li>• educational value</li> <li>• fun</li> <li>• competitive</li> </ul>

Learning outcomes	Teaching content
The Learner will:	Learners must be taught:
<p>2. Be able to generate game designs</p>	<p>2.1 Game concept considerations, i.e.:</p> <ul style="list-style-type: none"> <li>• purpose</li> <li>• type (genre)</li> <li>• audience (e.g. demographics)</li> <li>• story</li> <li>• stage</li> <li>• characters</li> <li>• progression/levels</li> <li>• scoring</li> <li>• sound</li> <li>• control method</li> <li>• host platform</li> </ul> <p>2.2 Present game concept, i.e.:</p> <ul style="list-style-type: none"> <li>• overview of concept</li> <li>• visualisation</li> <li>• reasons for decisions made</li> <li>• available options</li> <li>• viability of design</li> <li>• resources required</li> </ul> <p>2.3 Gather feedback on the game concept, e.g.:</p> <ul style="list-style-type: none"> <li>• stage</li> <li>• characters</li> <li>• progression</li> <li>• scoring</li> <li>• fun</li> <li>• suitability for target audience</li> </ul> <p>2.4 Create the game design, i.e.:</p> <ul style="list-style-type: none"> <li>• choice of software for game development</li> <li>• pseudocode</li> <li>• storyboard</li> <li>• mood board</li> <li>• help</li> <li>• assets</li> </ul>
<p>3. Be able to create games from game designs</p>	<p>3.1. Select software for game development, e.g.:</p> <ul style="list-style-type: none"> <li>• Construct 2</li> <li>• Game Guru</li> <li>• Play My Code</li> <li>• GameMaker</li> </ul> <p>3.2. Test the functionality of the game, i.e.:</p> <ul style="list-style-type: none"> <li>• test number</li> <li>• date</li> <li>• expected result</li> <li>• actual result</li> <li>• corrective action</li> <li>• testing against the design</li> <li>• progression</li> <li>• scoring</li> </ul>

Learning outcomes	Teaching content
The Learner will:	Learners must be taught:
	<ul style="list-style-type: none"> <li>• error messages</li> <li>• gather feedback on the functionality of the game</li> </ul> <p>3.3. Evaluation i.e.:</p> <ul style="list-style-type: none"> <li>• suitability for target audience</li> <li>• level of engagement</li> <li>• playability</li> <li>• aesthetics</li> <li>• extendibility</li> </ul>
<p>4. Be able to recommend additional features for game designs</p>	<p>4.1. Additional features, e.g.:</p> <ul style="list-style-type: none"> <li>• ability to play on alternative platforms</li> <li>• built-in help facilities</li> <li>• cheats</li> <li>• bonus scores</li> <li>• bonus levels</li> <li>• enhanced sound</li> <li>• auto save</li> <li>• optional extras (e.g. add-ons).</li> </ul> <p>4.2. Benefits of additional features, e.g.:</p> <ul style="list-style-type: none"> <li>• enhanced enjoyment</li> <li>• increased complexity</li> <li>• additional element of surprise</li> <li>• aids collaborative and interactive gaming</li> <li>• player more likely to recommend game to friends</li> <li>• stimulates hand-eye co-ordination</li> <li>• brain training</li> <li>• retains player interest</li> <li>• aids movement</li> <li>• aids education</li> </ul> <p>4.3. Multi-platform opportunities, e.g.:</p> <ul style="list-style-type: none"> <li>• standalone</li> <li>• mobile (e.g. smartphone)</li> <li>• networked</li> <li>• internet</li> <li>• different operating systems</li> </ul>

## GRADING CRITERIA

LO	Pass	Merit	Distinction
	The assessment criteria are the Pass requirements for this unit.	To achieve a Merit the evidence must show that, in addition to the Pass criteria, the candidate is able to:	To achieve a Distinction the evidence must show that, in addition to the pass and merit criteria, the candidate is able to:
1. Know the fundamentals of game design	P1: Describe the fundamentals of game design		
2. Be able to generate game designs	P2: Outline the game concept		
	P3: Present the game concept to stakeholders to obtain feedback	M1: Justify how the concept meets the purpose and features of the game	
	P4: Produce the design for the game concept based on feedback		
3. Be able to create games from game designs	P5: Create the game	M2: Test the functionality of the game	D1: Evaluate the game against the design specification
4. Be able to recommend additional features for game designs	P6: Recommend additional features to improve game design	M3: Consider how the additional features would enhance the original game design	D2: Justify how the game design could be supported on multi-platforms

## SYNOPTIC ASSESSMENT AND LINKS BETWEEN UNITS

When learners are taking an assessment task, or series of tasks, for this unit they will have opportunities to draw on relevant, appropriate knowledge, understanding and skills that they will have developed through other units. See section 6 of the Centre Handbook for more information on synoptic assessment.

This unit and specific LO	Name of other unit and related LO
LO1: Know the fundamentals of game design	<p><b>Unit 1: Essentials of IT</b> LO4: Know about the Internet and related technologies</p> <p><b>Unit 2: Essentials of cyber security</b> LO1: Know about aspects of cyber security LO2: Understand the threats and vulnerabilities they can make LO3: Understand how organisations/individuals can minimise impacts from cyber security incidents</p> <p><b>Unit 4: Creating programming solutions for business</b> LO2: Be able to research the features of programming languages used for business solutions LO3: Be able to plan business solutions using programming languages LO4: Be able to create business solutions using programming languages</p> <p><b>Unit 6: Participating in a project</b> LO2: Be able to contribute to a project</p> <p><b>Unit 7: Pitching the product</b> LO2: Be able to pitch a product to internal stakeholders</p>
LO2: Be able to generate games designs	<p><b>Unit 1: Essentials of IT</b> LO2: Know about software components LO3: Know how to install and upgrade hardware and software LO4: Know about the Internet and related technologies</p> <p><b>Unit 2: Essentials of cyber security</b> LO1: Know about aspects of cyber security LO2: Understand the threats and vulnerabilities they can make LO3: Understand how organisations/individuals can minimise impacts from cyber security incidents</p> <p><b>Unit 4: Creating programming solutions for business</b> LO3: Be able to plan business solutions using programming languages</p> <p><b>Unit 6: Participating in a project</b> LO2: Be able to contribute to a project</p> <p><b>Unit 7: Pitching the product</b> LO2: Be able to pitch a product to internal stakeholders</p> <p><b>Unit 8: Using emerging technologies</b> LO1: Know the technologies currently emerging</p>

This unit and specific LO	Name of other unit and related LO
<p>LO3: Be able to create games from game designs</p>	<p><b>Unit 13: Creating websites</b>  LO3: Be able to create or modify components of websites to meet business needs</p> <p><b>Unit 1: Essentials of IT</b>  LO2: Know about software components  LO3: Know how to install and upgrade hardware and software</p> <p><b>Unit 4: Creating programming solutions for business</b>  LO4: Be able to create business solutions using programming languages</p> <p><b>Unit 6: Participating in a project</b>  LO2: Be able to contribute to a project</p> <p><b>Unit 8: Using emerging technologies</b>  LO1: Know the technologies currently emerging</p> <p><b>Unit 13: Creating websites</b>  LO3: Be able to create or modify components of websites to meet business</p> <p><b>Unit 14: Creating mobile applications for business</b>  LO2: Be able to create mobile applications to meet business needs</p>
<p>LO4: Be able to recommend additional features for game designs</p>	<p><b>Unit 1: Essentials of IT</b>  LO2: Know about software components  LO3: Know how to install and upgrade hardware and software  LO4: Know about the Internet and related technologies</p> <p>LO3: Understand how organisations/individuals can minimise impacts from cyber security incidents</p> <p><b>Unit 6: Participating in a project</b>  LO2: Be able to contribute to a project</p> <p><b>Unit 7: Pitching the product</b>  LO2: Be able to pitch a product to internal stakeholders</p> <p><b>Unit 8: Using emerging technologies</b>  LO1: Know the technologies currently emerging  LO3: Be able to reflect on future impacts of emerging technologies</p>



## ASSESSMENT GUIDANCE

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### **LO1 Know the fundamentals of games design**

**P1:** Learners should research the elements of game design. Learners are required to describe key genres, a range of gaming platforms, how player's interest is maintained and the psychological aspects considered in game design. This could be achieved by reviewing different types of games with a different focus, genre or purpose. The evidence for this could be presented as (online) review, report or a video presentation.

### **LO2 Be able to generate game designs**

**P2:** Learners are required to produce an outline of the considerations of the game concept. This can be submitted as a formal report or presentation.

**P3/M1:** Learners are required to present the game concept to obtain feedback. The presentation can take any format but must give the stakeholders a good overview of the game content, how it will work and the decision making process behind the game concept. The feedback can be through written questionnaires or verbal. If verbal, there should be some form of audio/video recording.

**P4:** Learners are required to produce the design for their game concept taking into account the stakeholder feedback. The design should be sufficiently detail to allow a third party to develop the game. The design documentation selected is flexible.

### **LO3 Be able to create games from game designs**

**P5:** Learners are to create the game using appropriate software for game development. The game should reflect the design produced in P4. Evidence could be in the form of an operational game or a video recording of the game in play.

**M2:** Learners must produce a test plan for the game against an agree set of test criteria to test the functionality of the game. The evidence will be the fully completed test plan.

**D1:** Learners are required to evaluate the game they have created against the original design specification. This evaluation should consider different perspectives and learners should be encouraged to consider the list in the teaching content as a starting point.

### **LO4 Be able to recommend additional features for game designs**

**P6:** Learners are required to recommend additional features that will improve the game design. The evidence could be in the form of a report, podcast, presentation, design documentation.

**M3:** As an extension of P6, learners must consider how the additional features will enhance the original game design. This evidence could be in the form of a podcast, report or presentation and included as an extension to P6.

**D2:** Learners must justify how the game design could be supported on multi-platforms both in terms of type of platform and the operating system used. The evidence could be in the form of a presentation, podcast or report.

**Feedback to learners:** you can discuss work-in-progress towards summative assessment with learners to make sure it's being done in a planned and timely manner. It also provides an opportunity for you to check the authenticity of the work. You must intervene if you feel there's a health and safety risk.

Learners should use their own words when producing evidence of their knowledge and understanding. When learners use their own words it reduces the possibility of learners' work being identified as plagiarised. If a learner does use someone else's words and ideas in their work, they must acknowledge it, and this is done through referencing. Just quoting and referencing someone else's work will not show that the learner knows or understands it. It has to be clear in the work how the learner is using the material they have referenced to inform their thoughts, ideas or conclusions.

For more information about internal assessment, including feedback, authentication and plagiarism, see the centre handbook. Information about how to reference is in the OCR Guide to Referencing available on our website: <http://www.ocr.org.uk/i-want-to/skills-guides/>

## MEANINGFUL EMPLOYER INVOLVEMENT - a requirement for the Technical certificate qualifications

These qualifications have been designed to be recognised as Technical certificates in performance tables in England. It is a requirement of these qualifications for centres to secure for every learner employer involvement through delivery and/or assessment of these qualifications.

The minimum amount of employer involvement must relate to at least one or more elements of the mandatory content. This unit is mandatory in the Digital Software Practitioner pathway.

Eligible activities and suggestions/ideas that may help you in securing meaningful employer involvement for this unit are given in the table below.

Please refer to the *Qualification Handbook* for further information including a list of activities that are not considered to meet this requirement.

Meaningful employer engagement	Suggestion/ideas for centres when delivering this unit
1. Learners undertake structured work-experience or work-placements that develop skills and knowledge relevant to the qualification.	Learners could undertake work-experience with a local game designer. The work experience could include all or some of the learning outcomes for this unit.
2. Learners undertake project(s), exercises(s) and/or assessments/examination(s) set with input from industry practitioner(s).	A local game designer could request a game with a specific purpose and features.
3. Learners take one or more units delivered or co-delivered by an industry practitioner(s). This could take the form of master classes or guest lectures.	A guest speaker from a game design company could present a lecture on the fundamentals of game design and how to maintain player interest in a game.
4. Industry practitioners operating as 'expert witnesses' that contribute to the assessment of a learner's work or practice, operating within a specified assessment framework. This may be a specific project(s), exercise(s) or examination(s), or all assessments for a qualification.	Industry practitioners could act as expert witnesses by providing feedback on the games created.

You can find further information on employer involvement in the delivery of qualifications in the following documents:

- [Employer involvement in the delivery and assessment of vocational qualifications](#)
- [DfE work experience guidance](#)

To find out more

**[ocr.org.uk/it](http://ocr.org.uk/it)**

or call our Customer Contact Centre on **02476 851509**

Alternatively, you can email us on **[vocational.qualifications@ocr.org.uk](mailto:vocational.qualifications@ocr.org.uk)**



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