



Higher National Project-based Graded unit Specification

General Information

This Graded unit has been validated as part of the HNC Computer Games Development. Centres are required to develop a project-based assessment in accordance with this validated specification.

Graded unit title: Computer Games Development: Graded unit 1 (SCQF level 7)

Graded unit code: HH3M 34

Type of Project: Practical Assignment

Publication date: June 2017

Source: Scottish Qualifications Authority

Version: 02

Graded unit purpose

This Graded unit is designed to provide evidence that the learner has achieved the following principal aims of the HNC Computer Games Development:

- ◆ To prepare learners for employment in a junior developer role within the computer games industry or a junior software developer role within the IT industry generally.
- ◆ To develop a range of contemporary vocational skills relating to the development of computer games appropriate to employment at junior developer (or equivalent) level.
- ◆ To prepare learners for progression to further study in Computer Games Development or a related discipline.
- ◆ To develop learners' computational thinking skills.

Credit points and level

1 Higher National unit credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Higher National Project-based Graded unit Specification: General Information (cont)

Recommended entry to the Graded unit

It is recommended that the learner should have completed or be in the process of completing the following units relating to the above principal aims prior to undertaking this Graded unit:

| | |
|---------|--|
| DH35 34 | <i>Computing: Planning</i> |
| H17D 34 | <i>Computing: Introduction to Project Management</i> |
| HH57 34 | <i>Computer Games: Programming Fundamentals</i> |
| H178 34 | <i>Team Working in Computing</i> |

The following optional units relate to this Graded unit but are not required before undertaking this unit.

| | |
|---------|--|
| HF50 34 | <i>Digital Media: Audio</i> |
| F869 34 | <i>3D Level Editing</i> |
| HH38 34 | <i>2D Animation for Games</i> |
| HH37 34 | <i>Game Interface Design</i> |
| HH39 34 | <i>Computer Games: Creating Graphics</i> |

Core Skills

Achievement of this unit gives automatic certification of the following:

| | |
|----------------------|---------------------------------|
| Complete Core Skill | Problem Solving at SCQF level 6 |
| Core Skill component | None |

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this graded unit specification.

Equality and inclusion

This Graded unit has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on SQA's website:

www.sqa.org.uk/assessmentarrangements

Higher National Project-based Graded unit Specification: Designing the project and assessing learners

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

Assessment

This Graded unit will be assessed by the use of a project-based practical assignment developed by centres. The project should provide the learner with the opportunity to produce evidence that demonstrates she/he has met the aims of this Graded unit.

The project undertaken by the learner must be a complex task which involves:

- ◆ variables which are complex or unfamiliar
- ◆ relationships which need to be clarified
- ◆ a context which may be unfamiliar to the learner.

The project must require the learner to:

- ◆ analyse the task and decide on a course of action for undertaking the project
- ◆ plan and organise work and carry it through to completion
- ◆ reflect on what has been done and draw conclusions for the future
- ◆ produce evidence of meeting the aims which this Graded unit has been designed to cover

This project requires the learner to **contribute** to the **development of a computer game** as part of a **team**. Any type of computer-based game is acceptable but it must clearly be a game (such as a platform, action, role play, virtual world, quiz or strategy game). The game's length and complexity should be consistent with the SCQF level of this unit (level 7) and appropriate for a group-based solution. The solution should be sufficiently large to facilitate group work and generate the required evidence (see Evidence Requirements).

Each learner will work as part of a team but will be assessed **individually** using the Grade Related Criteria (GRC); however, some of the criteria relate to their contribution to group work. Each learner's individual mark should reflect their unique contribution to the work of the group.

All assignments must present an approximately **equal level of demand**, irrespective of the technologies involved. It is not acceptable to produce 'complex' games that are largely derived from automated software. Conversely, it may be acceptable to create a "simple" game that was generated using complex tools and technologies.

The assessment exemplar for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable instrument of assessment. Centres wishing to develop their own assessments should refer to the Assessment Support Pack to ensure a comparable standard. Assessment exemplars are available on SQA's secure website.

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
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Conditions of assessment

The learner should be given a date for completion of the project. However, the instructions for the project should be distributed to allow the learner sufficient time to assimilate the details and carry out the project. During the time between the distribution of the project instructions and the completion date, assessors may answer questions, provide clarification, guidance and reasonable assistance. The project should be marked as soon as possible after the completion date. The final grading given should reflect the quality of the learner's evidence at the time of the completion date.

Learners are required to work in groups of **three or more** learners; it is recommended that groups are restricted to three or four members. Each learner may play a specific role in the team (such as game designer) or participate in all roles. Irrespective of the group's organisation, **each learner must contribute to every stage of the project**. It is not permissible for a learner to contribute to one activity (such as coding) only; however, the focus of their contribution may relate to a specific role, such as designing or coding or testing.

A project scenario should be provided to each learner prior to starting this unit to allow time to assimilate the requirements of the assessment. Groups should be allocated prior to starting the project to encourage learners to discuss the requirements of the project scenario and the implications for team working.

Although learners will work in a group, they should also work independently, without undue assistance from the assessor, and contribute fully to the project. The project marking scheme is based on each learner's individual submission. It is up to centres to take reasonable steps to ensure that the project is the learner's work and that each learner has contributed adequately to the work of the group. For example, centres may wish to informally question learners, at various stages, on their knowledge and understanding of the project on which they have embarked. Centres should ensure that where research is carried out in other establishments, or under the supervision of others, that the learner does not receive undue assistance.

The evidence for the project is generated over time and involves three distinct stages (planning, developing and evaluating), where **each stage of the project has to be achieved before the next is undertaken**. Thus any re-assessment of stages must be undertaken before proceeding to the next stage.

If a learner is found to have plagiarised, or to have gained an unfair advantage by other means, the centre should have procedures for dealing with this, including the authority to deem that the learner has failed the assessment. Learners should provide references in the form of footnotes and/or bibliography for any materials used and/or accessed that are not their own.

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

The project scenario will require each team to produce a fully functional, small computer game using direct programming within a structured approach. The game should demonstrate knowledge and skills in the design process and subsequent coding, and should lend itself to a platform, action, virtual world, quiz, strategy or any other suitable genre. The project brief should give some guidance as to appropriate delivery platforms. Any assets used in the game that are not original work must show compliance with copyright law.

The assignment task should offer sufficient flexibility to allow each team to produce their own unique response to the assignment and should give some guidance as to the appropriate delivery platforms (such as PC, console or mobile).

Remediation, re-assessment, reasonable assistance and other Project based Graded unit processes are detailed in the SQA publication *Guidance for the Implementation of Graded units in Higher National Certificates and Diplomas*, to which reference should be made.

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

Evidence Requirements for this Graded unit

The project undertaken by learners will consist of three stages: planning; developing; and evaluating. The following table specifies the minimum evidence required to pass each stage.

Each learner must provide **all** of the required evidence. Some evidence will be produced individually and some will be produced collectively (in a group). This is denoted in the table.

| Project stage | Minimum Evidence Requirements | % Mark Allocation |
|-------------------------|---|-------------------|
| Stage 1 — Planning | 1 Game proposal (individual) 2 Planning logbook (individual) 3 Pre-production report (group) 4 Project plan (group) 5 Minutes of planning meetings (group) | 20% |
| | The learner must achieve all of the minimum evidence specified above in order to pass the Planning stage. | |
| Stage 2 — Developing | 6 Development logbook (individual) 7 Game design document (group) 8 Source code (group) 9 Program documentation (group) 10 A working computer game (group) 11 Test documentation (group) | 60% |
| | The learner must achieve all of the minimum evidence specified above in order to pass the Developing stage. | |
| Stage 3 — Evaluating | 12 Evaluation report (individual except for peer evaluation) including: <ul style="list-style-type: none"> ◆ Summary of the project ◆ Extent to which the solution meets the requirements ◆ Strengths and weaknesses of the solution ◆ Effectiveness of the development process ◆ Self-evaluation of their contribution to the team ◆ Peer evaluation of their contribution to the team | 20% |
| | The learner must achieve all of the minimum evidence specified above in order to pass the Developing stage. | |

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
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Half of the marks for the evaluation stage (10%) will be awarded for the peer evaluation. This is further explained in the next section. The peer evaluation will be completed by team members (excluding the learner) but included as part of the learner's evidence portfolio.

Assessing and grading learners

The overall project will be marked out of **100**. Only whole marks should be used.

The percentage of marks allocated to each stage of the project is outlined in the **Evidence Requirements**.

It is a requirement that learners must meet the minimum *Evidence Requirements* for the *Planning stage before progressing to the Developing stage before progressing to the Evaluating stage*. Learners may produce evidence over and above that specified in the minimum *Evidence Requirements* and deserve more than half the available marks for that stage. Assessors should use the Grade Related Criteria outlined below to judge learner performance.

Learners are required to work both independently and within a team to meet the Evidence Requirements of the Graded unit. Where learners need appropriate support, SQA uses the term reasonable assistance to describe the balance between supporting learners in their project and not providing too much assistance.

At the end of *each* stage there should be opportunities for remediation and re-assessment of learners for that particular stage. This includes the final *Evaluation* stage. Any re-assessment should be carried out in line with the centre's own assessment policy.

Remediation, re-assessment, reasonable assistance and other Project based Graded unit processes are detailed in the SQA publication *Guidance for the Implementation of Graded units in Higher National Certificates and Diplomas*, to which reference should be made.

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
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| Grade Related Criteria | |
|--|---|
| Grade A | Grade C |
| <p>Is a seamless, coherent piece of work, which:</p> <ul style="list-style-type: none"> ◆ has complete evidence for all three stages of the project, produced to a high standard, and is clearly inter-related ◆ contributes significantly to each stage of the project ◆ demonstrates highly developed technical skills ◆ demonstrates highly developed creative and aesthetic skills ◆ is clear and well-structured throughout and language used is of a uniformly high standard in terms of level, accuracy and technical content ◆ collaborates and co-operates skillfully and effectively with team members ◆ demonstrates learner's ability to work with minimum support and revision ◆ demonstrates highly developed computational thinking ◆ demonstrates a high degree of self-awareness of the strengths and weaknesses of own and other's contributions to the overall project. | <p>Is a co-ordinated piece of work, which:</p> <ul style="list-style-type: none"> ◆ has complete evidence for all three stages of the project, produced to an adequate standard ◆ contributes adequately to each stage of the project ◆ demonstrates adequate technical skills ◆ demonstrates adequate creative and aesthetic skills ◆ is satisfactorily structured and language used is adequate in terms of level, accuracy and technical content ◆ collaborates and co-operates adequately with team members ◆ demonstrates learner's ability to work with limited support and occasional revision ◆ demonstrates adequate computational thinking ◆ demonstrates limited self-awareness of the strengths and weaknesses of own and other's contributions to the overall project. |

The above table defines the criteria for achieving grade A and grade C; grade B is interpolated between these grades.

The Grade Related Criteria (GRC) should be applied to the Evidence Requirements **holistically** (not atomistically). Some criteria will apply to all stages (such as the criterion relating to the amount of assistance the learner requires) and some will be more relevant to specific stages (such as the criterion relating to self-awareness, which relates mostly to the evaluation stage).

Higher National Project-based Graded unit Specification: Designing the project and assessing learners (cont)

Graded unit title: Computer Games Development: Graded unit 1
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The criteria should be applied to the evidence for each stage to derive a mark for that stage. Progression from stage to stage depends on the learner passing each stage (achieving a mark of at least 50%).

All of the Grade Related Criteria must be included in the marking instructions. However, some criteria are more significant than others. The order of the criteria in the table broadly represents the significance of each criterion for the purposes of marking (most significant first).

Half of the marks (10%) for the evaluation stage are awarded by peer assessment. These marks will be awarded to each learner by other members of the group, who will **collectively** agree a score for each learner. The assessment of the learner's contribution must be carried out using marking criteria. The marks awarded will be moderated by the assessor (teacher). If the group is unable to agree a consensual score, or agree an unduly low or inflated score, the teacher (as moderator) will arbitrate and, if necessary, decide a score. The effectiveness of the group at agreeing a realistic mark is part of their ability to co-operate and work collaboratively (which is a Grade Related Criterion) and, therefore, will be reflected in their individual scores for that criterion.

The Support Notes provide further details and examples of how the Grade Related Criteria can be used to grade (mark) learners' evidence.

A specific approach to marking, using this design, is provided in each Assessment Support Pack.

The marks allocated to each stage will then be aggregated to arrive at an overall mark for the project. Assessors will then assign an overall grade to the learner for this Graded unit based on the following grade boundaries.

A = 70%–100%
B = 60%–69%
C = 50%–59%

These grade boundaries are fixed and should **not** be amended.

If a learner does not achieve a pass or wishes to upgrade, then this must be done using a substantially different project, ie all stages are undertaken using a new project (case study, investigation or practical assignment). In these circumstances, the highest grade achieved should be awarded.

More information on reasonable assistance, remediation and re-assessment may be found in the SQA publication *Guidance for the Implementation of Graded units in Higher National Certificates and Diplomas* (SQA, 2008, Publication code: CA4405).



Higher National Project-based Graded unit Support Notes

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

Guidance on approaches to delivery and assessment of this Graded unit

This project involves the learner working in a team to design and implement a working computer game, or part thereof. It is recommended that the team size should be between three and four members. Where possible, there should be a range of skills and abilities within each project team.

The game should reflect the knowledge and skills developed in the programming delivery of the HNC Computer Games Development course. The software tool used to create the game should be of a level that requires the learner to produce significant amounts of coding. Hence it would be appropriate to use a 'middleware' solution whereas it would be inappropriate for the learner to use low-level statements (such as DirectX function calls). An appropriate tool for creating the project would be a standard programming language, with additional graphics oriented abilities. Centres should provide a toolset that is representative of current industry development.

The learner will be required to:

- ◆ demonstrate the skills necessary to produce a full game level design and implement this design (or certain levels of this design) to create a working computer game.
- ◆ demonstrate the skills of working within a group to design, code and test a video game to meet the requirements of the project.
- ◆ demonstrate skills in Design, Content Creation and Programming.
- ◆ analyse the effectiveness of the response to the solution and provide a detailed evaluation.

The nature of the Graded unit requires learners to work as part of a team (participating fully) as well as working individually. The Evidence Requirements and Grade Related Criteria have been designed to aid this process.

Each learner must submit an individual portfolio that covers the individual Evidence Requirements. This portfolio will contain the proposal report, Planning and Development logbook(s), evaluation report, and evidence of chairing or recording minutes of meetings.

It is recommended that centres include supportive evidence of individual contribution to the team project where learners can list and cross reference to entries in the team portfolio. For example, contributions they have made to the pre-production report, design and implementation)

Each Team must submit a team portfolio that covers the Evidence Requirements for the team.

Higher National Project-based Graded unit Support Notes (cont)

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

Planning

In the planning stage, the individual production of the *Proposal Report* requires learners to develop a proposed game concept. Tutors should encourage learners to present their design to their team and discuss which design (or resulting hybrid) should be selected for development. This should occur in an early, minuted and observed team meeting.

During the production of the team Pre-production Report, teams should decide on team roles and responsibilities to ensure each learner is involved in all areas of the project, but has a lead role for some element. The obvious division would be dividing into Programming, Art and Design, and project management and assigning one lead to each section. With teams of less or more than three members, other arrangements will have to be decided upon. Teams of more than four members are not recommended. The team should discuss the scope of the project and agree on a suitable approach for carrying out the project within the deadlines set by the assessor. This will form part of the project plan along with a detailed Gantt Chart indicating phases, tasks, timescales, task responsibilities, milestones etc.

Teams must decide upon a meeting schedule to be attended by the project team and the tutor. Weekly meetings are recommended but must be sufficient in number for each member of the team to take the roles of the meeting chair and minute secretary of at least one meeting.

Meetings arranged using online collaboration/communication tools are acceptable (and may be beneficial in distance learning scenarios) provided proper minutes are recorded during these meetings.

Development

When grading the implementation of the working computer game, a number of factors should be considered, listed below:

- ◆ completed functionality including menu system and in game instructions/tutorial
- ◆ adherence to the stated requirements for the game
- ◆ complexity of the game
- ◆ visual impact
- ◆ originality of concept
- ◆ system of reward
- ◆ depth of gameplay
- ◆ appropriate challenge/difficulty

Higher National Project-based Graded unit Support Notes (cont)

Graded unit title: Computer Games Development: Graded unit 1 (SCQF level 7)

Evaluation

The Evaluation Stage (Stage 3) will involve the learner working individually and producing an evaluation report about their own performance, the quality of the final product and how effectively they have worked as a team. This report will be worth half of the marks allocated to this section, ie 10%.

The remaining 10% of the individual's mark will be allocated by their peers. It is suggested that the mentor oversees and guides the marking process to ensure that it is fair; however team members will allocate the marks. The peer evaluation must be considered in relation to the Grade Related Criteria for judging each individual learner's work and contribution to the team.

Centres may also wish to implement, and refer to, an observation checklist to evaluate each individual's contribution.

Guidance on grading and marks allocation

Always refer to the latest version of the SQA publication *Guidance for the Implementation of Graded units in Higher National Certificates and Diplomas* prior to start of delivery of this Graded unit. For project-based Graded units, it is a requirement that learners must pass the Planning stage before progressing to the Developing stage, and must pass the Developing stage before progressing to the Evaluating stage. This means that assessors must be satisfied that learners have met the minimum Evidence Requirements for each stage before progressing to the next. However, it is important that assessors manage learner expectations and do not make irrevocable decisions on grading until the final stage is complete and assessors have had an opportunity to view the work as a whole.

There will be an indication at each stage of how well a learner is performing. However, a learner may do a wonderful job of the Planning stage but produce a basic competent practical assignment, or a learner might produce a basic plan for the production of an item but go on to contribute to an innovative and complex product at the Developing stage. The weighting for each stage also has to be taken into account along with the split between individual and team contributions. For example, if Planning is 20%, Developing 60% and Evaluating 20% and a learner provides just the minimum Evidence Requirements for Planning and Evaluating but does a fantastic job on Developing, the assessor must judge where the balance of grading should lie — clearly doing just one thing really well would not be sufficient to gain an overall high grade.

Feedback to learners will be part of the on-going monitoring process to ensure each learner has passed the stages necessary for progression. Therefore, a learner may have some idea of their expected grade. When giving feedback to learners, it is highly recommended that it is grading that is discussed and not individual marks.

Higher National Project-based Graded unit Support Notes (cont)

Graded unit title: Computer Games Development: Graded unit 1
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The final grading given should reflect the quality of the learner's evidence **at the time of the unit completion date** and must take into account the grade levels indicated in each of the three stages by reference to the Grade Related Criteria table above, eg where a learner has been allowed revision/remediation, then this would indicate a grade 'C' for that stage, so overall a final Grade 'A' would not be awarded. (Refer to Grade 'A' criteria 1 above — no high level of performance demonstrated in each stage.) However if some re-assessment opportunities were provided only for one stage, this would not necessarily preclude a Grade 'B'.

Guidance on Graded Related Criteria

This guide is intended to give further detailed advice on differentiating between a grade A and grade C learner.

*'Has complete evidence for all three stages of the project, produced to a **high standard**, and is **clearly inter-related**' (grade A) compared with 'has complete evidence for all three stages of the project, produced to an **adequate standard**' (grade C).*

This statement is about the quantity and quality of submission. A grade A learner will ensure that the evidence produced is extremely detailed, relevant and of high quality. It will indicate a wide range of research and investigation, significant effort through design and implementation. The evidence will be submitted in a coherent manner ensuring each requirement is addressed fully and has a logical structure. A grade C learner will produce sufficient evidence to meet minimum Evidence Requirements, show that there has been contribution to design and implementation although the content and quality of their final portfolio will be inconsistent.

*'**Contributes significantly** to each stage of the project' (grade A) compared with '**contributes adequately** to each stage of the project' (Grade C).*

This statement is intended to distinguish between a motivated team worker who takes responsibility for areas of the team based project, is involved in discussions, decisions and collaboration and carries out tasks effectively within given timescales (grade A) compared with an individual who adopts a passive role, carrying out tasks assigned to them but may struggle to meet deadlines or communicate effectively with team members (grade C).

*'Demonstrates **highly developed technical skills**' (Grade A) compared with '**demonstrates adequate technical skills**' (grade C).*

This statement is about the evidence produced for each of the three stages of the Project. A Grade A learner will produce detailed evidence demonstrating an in depth understanding of the technical requirements of the project whereas a Grade C learner will meet all requirements but may lack detailed evidence of their understanding of the technical requirements of the project.

*'Demonstrates **highly developed creative and aesthetic skills**' (Grade A) compared with '**demonstrates adequate creative and aesthetic skills**' (Grade C).*

Higher National Project-based Graded unit Support Notes (cont)

Graded unit title: Computer Games Development: Graded unit 1
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This statement is about a learner's creative response to a brief. A Grade A learner will produce design documentation that demonstrates creative and original ideas such as a game proposal that is distinctly different in either gameplay or look and feel from what has been taught throughout the course whereas a Grade C student will produce design documentation that shows an understanding of matching the visual appearance and gameplay to the requirements of the brief such as designing a game based on an example that has been taught as part of the course.

'Is clear and well-structured throughout and language used is of a uniformly high standard in terms of level, accuracy and technical content' (Grade A) compared with 'is satisfactorily structured and language used is adequate in terms of level, accuracy and technical content' (Grade C).

This statement distinguishes between a learner who consistently uses appropriate and high standard written communication within a well-structured set of evidence along with relevant technical terminology where appropriate (Grade A) compared with a learner who conveys written information adequately but has limited use of technical terminology and produces an inconsistent quality of portfolio (Grade C).

*'Collaborates and co-operates **skilfully and effectively** with team members' (Grade A) compared with 'collaborates and co-operates **adequately** with team members' (Grade C).*

A Grade A learner will provide evidence of excellent interpersonal relationships with other team members in relation to negotiation and decision making whereas a Grade C learner will show evidence of involvement in team discussions and decision although may not be able to justify any proactive or effective team.

*'Demonstrates learner's ability to work with minimum support and revision' (Grade A) compare' with 'demonstrates learner's ability to work with **limited support and occasional revision**' (Grade C).*

A Grade A learner will be self-motivated and self-reliant during the progress of the project and will require very limited assistance to successfully complete all tasks whereas a Grade C learner will need ongoing support to ensure deadlines are met and to overcome setbacks or problems which may interfere with successful completion.

'Demonstrates highly developed computational thinking' (Grade A) compared with 'demonstrates adequate computational thinking' (Grade C).

This statement distinguishes between a learner who has shown that he/she can undertake analyses and develop solutions effectively, independently and with an overall beneficial effect to all aspects of their work (Grade A), compared with a learner who has been less thorough in his/her analyses but has reached adequate though not as effective solutions to most aspects of their work.

Higher National Project-based Graded unit Support Notes (cont)

Graded unit title: Computer Games Development: Graded unit 1 (SCQF level 7)

'Demonstrates a high degree of self-awareness of the strengths and weaknesses of own and other's contributions to the overall project corroborated through self and peer evaluation' compared with 'demonstrates adequate self-awareness of the strengths and weakness of own and other's contributions to the overall project corroborated through self and peer evaluation.'

This statement distinguishes between a learner who has worked hard, is an enthusiastic person having contributed well to the team workload where the team would have been lost without that input. This would be a key person or a person who has contributed a lot of work whether it is in art, design, code, testing, organising or documenting. (Grade A) compared with a learner who has contributed enough to pass, has completed everything asked of him but perhaps not to the best of standards.

Opportunities for developing Core and other essential skills

Throughout the natural processes of preparation and production of evidence for this project, the learner will develop and demonstrate many elements of each Core Skill as follows:

Communication — analysing the requirements of the task and presenting information and ideas both orally and in written format.

Numeracy — using mathematics in the context of computer game programming.

Information and Communication Technology (ICT) — using a range of IT software in the planning and production of the game level.

Working with Others — co-operative working as part of a team in practical situations.

Problem Solving — critical thinking and devising strategies to deal with unexpected issues or faults are fundamental elements of the project.

Computational thinking — analysing the requirements of the project using abstraction and decomposition and programming the solution using algorithms.

This unit has the Core Skill of Problem Solving embedded in it, so when learners achieve this unit their Core Skills profile will be updated to show that they have achieved Problem Solving at SCQF level 6.

History of changes to Graded unit

| Version | Description of change | Date |
|---------|--|----------|
| 02 | Core Skill Problem Solving at SCQF level 6 embedded. | 06/06/17 |
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General information for learners

Graded unit title: Computer Games Development: Graded unit 1
(SCQF level 7)

This unit has been designed to help you achieve the principal aims of the HNC Computer Games Development award and to assess your knowledge and skills relative to the mandatory subjects of the course framework:

HH57 34 *Computer Games: Programming Fundamentals*
DH35 34 *Computing: Planning*
H178 34 *Team Working in Computing*
H17D 34 *Computing: Introduction to Project Management*

And at least one from:

F869 34 *3D Level Editing*
HH38 34 *2D Animation for Games*
HH37 34 *Game Interface Design*
HH39 34 *Computer Games: Creating Graphics*

This will be achieved by the completion of a group-based project brief, allowing you to explore a range of solutions, arrive at an appropriate and effective resolution and communicate the solutions in an effective manner.

Over the course of this practical based unit you will work in a small team through three stages. The marking and grading scheme is based on your individual contribution throughout the entire project.

In the first stage — ‘Planning’, you will decide on a game prototype and then negotiate and plan how you will develop it as a team. You will decide on an approach or methodology which will assist in the planning of the tasks to be carried out and create a Gantt chart to indicate the scope and responsibilities in terms of tasks and timescales. This stage requires your team to produce a Pre-Production report evidencing contributions from all members of the team.

In stage two — ‘Developing’, your team will create the games design document as well as writing the programming code and creating the art and sound resources for the game itself. This will include testing procedures to ensure the game works correctly and meets requirements.

In the final stage — ‘Evaluating’, you will document your contribution to the project in terms of your ability to solve problems and work with the other members of your team. You will also document and formally assess the contributions made by other members of the team.

It is extremely important that you keep a record of your work throughout this project, therefore you will keep weekly logs detailing everything that you do.

The unit is graded individually (A–C) based on the quality and consistency of the work you have produced throughout the project and your ability to work in a team.

This unit has the Core Skill of Problem Solving embedded in it, so when you achieve this unit your Core Skills profile will be updated to show that you have achieved Problem Solving at SCQF level 6.