Higher National Project-based Graded Unit Specification

General information

This graded unit has been validated as part of the HND Technologies in Business. Centres are required to develop a project-based assessment in accordance with this validated specification.

Graded unit title: Technologies in Business: Graded Unit 2

Graded unit code: HX4T 35

Type of project: Practical assignment

Publication date: July 2018

Source: Scottish Qualifications Authority

Version: 03

Graded unit purpose

This graded unit is designed to provide evidence that the learner has achieved the following principal aims of the HND Technologies in Business:

♦ To develop study and research skills.
♦ To develop a balance of business, inter-personal, technology and project management skills.
♦ To develop an awareness of professional IT issues such as legal and ethical considerations.

The graded unit is designed to provide an opportunity to demonstrate the learners' ability to integrate the skills acquired in the prerequisite units to create a software product from a business scenario. This should entail analysing an existing business process or creating a new business process.

Credit points and level

2 Higher National Unit credits at SCQF level 8: (16 SCQF credit points at SCQF level 8)

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:

H8W8 34   *Big Data*
HT9J 35   *Business Process Management*
DV6J 34   *Functional Areas of Business*
H7TK 34   *Communication: Business Communications*
F7J7 35   *Business Culture and Strategy*
H1F7 34   *Professionalism and Ethics for Computing*
HT9N 34   *Project Management Methodologies: Introduction*
H16W 35   *Relational Database Management Systems*

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 Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this graded unit.

Assessment support pack

The assessment support pack 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 support packs are available on SQA's secure website.

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 our website: **www.sqa.org.uk/assessmentarrangements**

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

Graded unit title: Technologies in Business: Graded Unit 2

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.

The unit will be project based and should involve the learner analysing a real or fictitious business, which intends to implement a change to its business strategy.

If the learner is being presented with a fictitious organisation then the supporting text or case study must contain sufficient details about the current organisational structure and culture, goals and objectives, use of technology and task-job design (ie the way work is performed within the organisation) and all other relevant information. The catalyst for change must also be detailed (such as a performance gap where the organisational goals and objectives are not being met and/or a new opportunity in the marketplace and/or the identification of a new technology). The change should relate to a specific business function or area.

The assessment involves analysing how to manage the change within the business area of the organisation from a strategic level down to a specific business process (or processes) which may be partially or fully automated.

The process must be sufficiently complex to satisfy the evidence requirements and Grade Related Criteria defined in this specification. It must also be consistent with the SCQF level of this unit in terms of complexity and challenge.

In order to meet the above criteria, the brief must differ from other practical assessments the learner has done in the group award. A vital part of any graded unit is integration of knowledge and skills across component units; this must be evident in any practical assignment used for assessment of the graded unit.

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

Graded unit title: Technologies in Business: Graded Unit 2

Learners must work alone on this project. However, reasonable assistance may be provided by the teacher or other learners. The amount of assistance required will affect the learner's mark (see Grade Related Criteria).

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.

Reasonable assistance is the term used by SQA to describe the difference between providing learners with some direction to generate the required evidence for assessment and providing too much support, which would compromise the integrity of the assessment. Reasonable assistance is part of all learning and teaching processes. In relation to the assessment of Higher National Project-based Graded Units, assessors may provide advice, clarification, and guidance during the time between the distribution of the project instructions and the completion date, ie at each stage of the project.

Remediation allows an assessor to clarify learner responses, either by requiring a written amendment or by oral questioning, where there is a minor shortfall or omission in evidence requirements. In either case, such instances must be formally noted by the assessor, either in writing or recording, and be made available to the internal and external verifier. In relation to Higher National Project-based Graded Units, learners must be given the opportunity for remediation at each stage of the project.

The evidence for a Higher National Project-based Graded Unit is generated over time and involves three distinct stages, each of which has to be achieved before the next is undertaken. This means that any re-assessment of stages must be undertaken before proceeding to the next stage. The overall grade is derived from the total number of marks *across all* sections, and should reflect the ability of the learner to work autonomously and the amount of support required. In relation to Higher National Project-based Graded Units, learners who have failed any stage of the project and have been unable to provide the necessary evidence through remediation must be given the opportunity for re-assessment of that stage.

The practical assignment will be based on the development of a solution for a real client or a scenario supplied by the centre. If the method selected by a centre is a scenario given to a number of learners, then the centre must ensure the originality and uniqueness of each learner submission, through a formal authentication procedure.

If a learner is found to have plagiarised or to have gained an unfair advantage by other means, the centre should have in place 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 which is not their own.

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

Graded unit title: Technologies in Business: Graded Unit 2

Each centre must ensure that the project is the authenticated work of the individual learner. For example, centres may wish to informally question learners, at various stages, on their knowledge and understanding of the project. Centres should ensure that where research is carried out in other establishments, or under the supervision of others, that the learner does not receive unreasonable assistance.

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.

Project stage	Minimum evidence requirements	% Mark allocation
Stage 1 — Planning	**An analysis of the project assignment brief (up to 20 marks)**, which should include but not be restricted to the following: ♦ Information sources to be used ♦ Existing business strategy ♦ Organisational structure and culture ♦ Goals and objectives ♦ Information flows ♦ Control and feedback mechanisms ♦ Business area under review ♦ Associated business process(es) and rules ♦ Change management methodology adopted for analysis ♦ Key factors when updating a business strategy ♦ Key issues when changing a business strategy in an organisation. **Project plan (up to 10 marks):** Creation of a plan to manage the project identifying: ♦ Tasks ♦ Timescales ♦ Milestones ♦ Resources ♦ Deliverables *The learner **must** achieve all of the minimum evidence specified above in order to pass the Planning stage.*	30%

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

Graded unit title: Technologies in Business: Graded Unit 2

Project stage	Minimum evidence requirements	% Mark allocation
Stage 2 — Developing	♦ Derive a revised strategic process model from the business case. ♦ Derive a revised operational model from the strategic model. ♦ Generate Business Process Model diagrams using appropriate tools. ♦ Prepare a report of the investigation and analysis of a business scenario and the recommendations for the organisation. It must include: 1 Detailed explanation of how the analysis was undertaken with respect to the current business organisation and strategy. The explanation should be justified by explicit reference to the data collected and to concepts covered as in the mandatory units of the group award. 2 In relation to process modelling the analysis must include a revised strategic process model from the business case, a revised operational model from the strategic model and associated Business Process Model diagram(s) for the relevant business area under analysis. 3 Statement of the conclusions drawn from the investigation and any appropriate recommendations to be made to the organisation in relation to strategy, structure, objectives, processes, etc. These should be explicitly related to the issues being investigated. The report must be presented in a format suitable for a business report. *The learner **must** achieve all of the minimum evidence specified above in order to pass the Developing stage.*	50%

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

Graded unit title: Technologies in Business: Graded Unit 2

Project stage	Minimum evidence requirements	% Mark allocation
Stage 3 — Evaluating	Evidence should be in the form of a report showing the evaluation of the effectiveness of the approach/strategy taken, which includes all stages of the activity up to: The **evaluation report** should include all of the following: ♦ Identification of the information sources used for the evaluation. ♦ An outline of the assignment and to what extent the solution met the original requirements of the assignment brief. ♦ An assessment of the strengths and weaknesses of the outputs of the assignment. ♦ A summary of any modifications to the project plan and analysis that were made during the project, including reference to any unforeseen events and how they were handled. ♦ Identification of any knowledge and skills which have been gained or developed while carrying out the project assignment and how the actions/process of carrying out the project could have been improved.	20%
	*The learner **must** achieve all of the minimum evidence specified above in order to pass the Evaluating stage.*	

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

Graded unit title: Technologies in Business: Graded Unit 2

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 independently to meet the *evidence requirements* of the graded unit. At the same time, 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.

Grade Related Criteria	
Grade A	**Grade C**
Is a seamless, coherent piece of work which:	Is a co-ordinated piece of work which:
♦ has complete evidence for all three stages of the project, produced to a high standard, and is clearly inter-related	♦ has complete evidence for all three stages of the project, produced to an adequate standard
♦ demonstrates an accurate and insightful interpretation of the project brief	♦ demonstrates an acceptable interpretation of the project brief
♦ is highly focused and relevant to the tasks associated with the project brief	♦ is focused and relevant to the tasks associated with the project brief
♦ is clear and well-structured throughout and language used is of a high standard in terms of level, accuracy and technical content	♦ is satisfactorily structured and language used is adequate in terms of level, accuracy and technical content
♦ effectively consolidates and integrates required knowledge and skills	♦ consolidates and integrates knowledge and skills but this may lack some continuity and consistency

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

Graded unit title: Technologies in Business: Graded Unit 2

Grade Related Criteria	
Grade A	**Grade C**
♦ demonstrates the learner's ability to work with minimum support and infrequent revision ♦ demonstrates good time management and working practices.	♦ demonstrates the learner's ability to work with limited support and occasional revision ♦ demonstrates adequate time management and working practices.

The above table defines the criteria for achieving grade A and grade C. Grade B should be interpolated between these two grades.

The Grade Related Criteria should be applied to the evidence requirements holistically not atomistically. The (relevant) criteria should be applied to each stage of the project to derive a mark for that stage. Some criteria will apply to all stages (such as those relating to independent working and time management) and some will apply to specific stages (such as the criterion relating to creativity, which applies to the development stage only). All of the Grade Related Criteria must be included in any marking instructions. However, some criteria are more significant than others; this should be reflected in the marking instructions. 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%

Any learner who has failed their graded unit or wishes to upgrade their award must be given a re-assessment opportunity, or in exceptional circumstances, two re-assessment opportunities. In the case of project-based graded units, this must be done using a substantially different project.

The final grading given must reflect the quality of the learner's evidence at the time of the completion of the graded unit. Learners must be awarded the highest grade achieved — whether through first submission or through any re-assessment, remediation, and/or reasonable assistance provided.

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

Higher National Project-based Graded Unit Support Notes

Graded unit title: Technologies in Business: Graded Unit 2

Guidance on approaches to delivery and assessment of this graded unit

Planning the graded unit

It is recommended that learners are briefed about the graded unit at the start of the HND award. This does not mean that they are given the assessment at that time, which should be issued nearer the time of delivery.

At the start of the session they should be made aware of key factors such as the purpose, aim, underpinning units and importance of the grades for progression to employment and further study. Raising awareness at this time would help them devise ideas as they study the underpinning units. It may be useful for learners to carry out a self-evaluation of what they have done in the underpinning units and how they would like to develop further, just prior to starting the graded unit.

All lecturers delivering the group award should be aware of the importance of the unit and the standards required. It is important that they know that learners can only be given reasonable assistance, which should preferably be given by the assessor for the unit, ie they can't get help in other classes to build their automation/process. It is recommended that learners have an input to the brief(s) and come to a consensus about the assessment. This would also be a good time to plan methods of authenticity that will be used to check evidence that learners have produced out with the class.

Sequence of delivery

It is recommended that this graded unit is delivered in the final term (block/semester) of the HND, so that the learners have completed most if not all of the underpinning units (listed in the table below/over). It would be preferable for them to have completed all of the underpinning units before starting this, as delivering them in tandem can generally create an extra challenge for learners and result in them missing out key knowledge and skills that they could have applied.

The assessor should meet the learner regularly to discuss their progress through the stages. These meetings should be treated by the assessor as a management review of the learner's activities keeping track of the progress of the project comparing the actual with the planned progress. This will allow the assessor to modify deliverable dates (in agreement with the learner) so that the learner manages to complete the work in the required time.

An assessor should take a 'project' approach to this graded unit with a learner delivering a coherent piece of work. The project undertaken should provide the learner with the opportunity to develop knowledge and skills gained in the other units of study.

An assessor should ensure that the project allows a learner to produce the required evidence at SCQF level 8.

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

Graded unit title: Technologies in Business: Graded Unit 2

The project brief should include a sample of topics and issues selected from the following list of outcomes from mandatory units. The assessor may want to consider some suggestions in the table below.

Unit code	Unit title	Topics/Issues
H1F7 34	Professionalism and Ethics in Computing	♦ Apply codes of conduct and ethical standards relevant to computing practitioners. ♦ Evaluate ethical considerations in a relevant vocational context.
H8W8 34	Big Data	♦ Explain the concepts behind Big Data. ♦ Describe the applications of Big Data in business, science and society. ♦ Explain the implications of Big Data for individuals and society. ♦ Apply Big Data techniques to a problem.
HT9J 35	Business Process Management	♦ Derive a strategic process model from a business case. ♦ Derive an operational model from a given strategic model. ♦ Generate Business Process Model diagrams using appropriate tools. ♦ Implement business rules and CMMN model using complimentary methods.
DV6J 34	Functional Areas of Business	♦ Explain the nature and purpose of organisations. ♦ Explain the main functional areas of business and the inter-relationships between them.

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

Graded unit title: Technologies in Business: Graded Unit 2

Unit code	Unit title	Topics/Issues
H7J7 35	Business Culture and Strategy	♦ Analyse the process by which management can assess the current relationship between the organisation and its external environment. ♦ Assess the relationship between organisational culture and organisational behaviour. ♦ Explain the influence of business strategy on organisational behaviour. ♦ Explain how to manage a business strategy. ♦ Analyse how to manage change within an organisation.
HT9N 34	Project Management Methodologies: Introduction	♦ Describe the factors involved in choosing a project management methodology. ♦ Compare project management methodologies. ♦ Plan a project using a project management methodology.
H16W 35	Relational Database Management Systems	♦ Identify and use the processes and terminology used in designing a RDBMS. ♦ Design an RDBMS from a given scenario. ♦ Map the design model to the physical model. ♦ Create and run SQL statements/queries on a RDBMS.

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

Graded unit title: Technologies in Business: Graded Unit 2

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 learners' 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.

Opportunities for developing Core and other essential skills

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.

The following table gives further information on the Core Skills to which the unit may contribute and on the opportunities which the unit provides for Core Skills development.

Core Skill	SCQF level	Opportunity for Development
Problem Solving	6	♦ Investigation and analysis of a complex problem. Plan, organise and carry out a suggested approach using identified objectives and resources. ♦ Analyse the problem solving activity and assess progress, implement remedial action where appropriate and evaluate process.
Communication	6	♦ The reading and understanding of complex information relating to the vocational area, with analysis and evaluation of key concepts and terminology. ♦ Produce a well-structured document containing complex information. ♦ Discuss a complex issue during discussions and negotiation with the tutor.
ICT	6	♦ Creation of documentation using appropriate software packages.

History of changes to graded unit

Version	Description of change	Date
02	Core Skill Problem Solving at SCQF level 6 embedded.	30/04/18
03	Update of Conditions of Assessment	25/07/18

FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our Centre Feedback Form.

General information for learners

Graded unit title: Technologies in Business: Graded Unit 2

This graded unit is designed to provide evidence that you have achieved the following principal aims of the HND Technologies in Business:

♦ To develop study and research skills.
♦ To develop a balance of business, inter-personal, technology and project management skills.
♦ To develop an awareness of professional IT issues such as legal and ethical considerations.

It is recommended that you 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:

H8W8 34	*Big Data*
HT9J 35	*Business Process Management*
DV6J 34	*Functional Areas of Business*
H7TK 34	*Communication: Business Communications*
F7J7 35	*Business Culture and Strategy*
H1F7 34	*Professionalism and Ethics for Computing*
HT9N 34	*Project Management Methodologies: Introduction*
H16W 35	*Relational Database Management Systems*

It may also prove beneficial for you to have completed the H171 35 *Software Development: Object Oriented Programming* unit.

This graded unit will be assessed by the use of a project-based practical assignment developed by centres. The project should provide you with the opportunity to produce evidence that demonstrates you have met the aims of this graded unit.

The project undertaken by you 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 you 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.

The unit will be project based and should involve you analysing an area of a business (real or fictitious) which intends to implement a change to its business strategy.

If you are presented with a fictitious organisation then the supporting text or case study must contain sufficient detailed information relating to the current organisational structure and culture, goals and objectives, use of technology and task-job design (ie the way work is performed within the organisation) and all other relevant information.

General information for learners (cont)

Graded unit title: Technologies in Business: Graded Unit 2

The catalyst for change must also be detailed (eg a performance gap where the organisational goals and objectives are not being met, a new opportunity in the marketplace, the identification of a new technology, etc). The change should be limited to a specific business function or area.

The assessment involves analysing how to manage the change within the business area of the organisation from a strategic level down to a specific business process or processes which may be partially or fully automated.

The project undertaken by you will consist of three stages: planning, developing and evaluating. You are required to work independently to meet the *evidence requirements* of the graded unit. At the end of *each* stage there should be opportunities for remediation and re-assessment 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.

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 you 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 you do not achieve a pass or wish 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).

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.