

Higher National Unit Specification

General information for centres

Unit title: Project Management 1

Unit code: DM30 35

Unit purpose: This Unit is designed to provide the candidate with the skills required to develop and manage a project plan using commercially available project management software. The resultant skills will enable the candidate to develop and implement a project plan, and to manage the key resources involved in the development of a project in terms of time, cost, and human and physical resources. The contents will also provide the skills required to communicate information on the project both in report format as well as integration with other applications tools. The Unit may be undertaken by any candidate in any discipline where there is a need to learn and develop such Project Management knowledge and skills. The unit is written in generic terms enabling it to be completed using any commercially-available project management software tool, and may be delivered as a 'stand-alone' Introduction to Project Management software, or else included as part of an HN Group Award.

On completion of this Unit, the candidate should be able to:

1. Establish the project environment.
2. Develop a project plan.
3. Manage project information.
4. Produce customised project information.

Credit points and level: 1 HN Credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels ranging from Access 1 to doctorates.

Recommended prior knowledge and skills: Access to this Unit will be at the discretion of the Centre. However it would be beneficial if the candidate had prior experience of using computer systems. This may be evidenced by possession of Units at Higher National level such as HN Units *DH33 34 Computer Operating Systems 1* and *D75X 34 Information Technology: Applications Software 1*. In the absence of such evidence or in the case of mature students, experience of using computer systems, as well as regular computing experience within a working environment, would be desirable.

General information for centres (cont)

Core skills: There may be opportunities to gather evidence towards core skills in this Unit, although there is no automatic certification of core skills or core skills component.

Context for delivery: If this Unit is included in the framework of an HN award, then it is recommended that it should be delivered and assessed within the context of the particular group award to which it contributes.

This should enable the possibility of cross assessment of the Outcomes with another project based Unit contained within the HN award.

Achievement of the Outcomes will require access to a personal computer or workstation on an individual basis. A current version of commercially available software should be used. Concepts and terminology should be presented in context throughout the Unit.

Assessment: The Knowledge and Skills elements of this Unit are predominantly practical, therefore, it is recommended that the Outcomes be assessed by means of a case study project covering all of the requirements of the 4 Outcomes. Whether this is delivered as a single assessment or as a series of several assessments matching the progression of the Outcomes, is at the discretion of the centre.

Where there are opportunities to cross-assess this Unit with other project-oriented Unit(s), such as the Graded Assessment, then it is recommended that this be considered.

All assessments are open book. Assessors should assure themselves of the authenticity of each candidate's submission.

Higher National Unit specification: statement of standards

Unit title: Project Management 1

Unit code: DM30 35

The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Establish the project environment

Knowledge and/or skills

- ◆ Create a new project
- ◆ Setting default folder options and auto saving
- ◆ Declaring project start or finish date
- ◆ Specifying project schedule direction
- ◆ Creating a project calendar
- ◆ Modifying working time
- ◆ Setting the project calendar options
- ◆ Applying the project calendar to the project
- ◆ Formatting the timescale

Evidence requirements

Candidates must provide evidence to cover all knowledge and/or skills bulleted points by producing printouts from the software displaying the above information meeting the requirements of the assessment criteria.

The assessment must be undertaken in supervised conditions and is open book

Assessment guidelines

Various printouts are available within all project management software, but if eg Microsoft Project is being used, the following is offered as a guide (or similar printouts for other project management software packages):

- ◆ A printout of the Project Summary – showing the Start and Finish Dates of the Project
- ◆ A screen dump of the Project Information dialogue box to show the correct calendar applied
- ◆ A printout of the project calendar showing working hours and non-working days

If a series of assessments are to be used, then it is recommended that candidates should be presented with a case study scenario and be expected to use the appropriate facilities of the software to define the environment settings for the project, before entering the data as specified in Outcome 2.

Higher National Unit specification: statement of standards (cont)

Unit title: Project Management 1

Outcome 2

Develop a project plan

Knowledge and/or skills

Task related

- ◆ Opening a project
- ◆ Entering task information
- ◆ Organising and editing tasks using outlining techniques
- ◆ Inserting milestones and recurring tasks
- ◆ Modifying task durations
- ◆ Establishing task relationships
- ◆ Defining task deadlines and constraints
- ◆ Using lead and lag times
- ◆ Setting task types
- ◆ Entering task relationships

Resource related

- ◆ Entering resource information
- ◆ Creating resource calendars
- ◆ Applying calendars to the resources
- ◆ Assigning resources to tasks
- ◆ Entering costs for work resources and material resources
- ◆ Recording material resources and costs in a project

Evidence requirements

Candidates must provide evidence to cover all knowledge and/or skills bulleted points by producing printouts displaying the above information meeting the requirements of the Assessment criteria.

The assessment must be undertaken in supervised conditions and is open book.

Assessment guidelines

Various printouts are available within all project management software, but if eg Microsoft Project is being used, the following is offered as a guide (or similar printouts for other project management software packages):

- ◆ A printout of the Gantt chart with sufficient table data to evidence the above Knowledge and Skills items
- ◆ A printout of the cost table highlighting the inclusion of fixed material costs
- ◆ Printouts of all the Resource calendars created
- ◆ A printout of the Resource pool showing resource costs and resource calendars correctly recorded
- ◆ A printout of the Project Summary – showing the Start and Finish Dates of the Project

It is recommended that centres continue with the same case study scenario as issued for Outcome 1, and candidates will be expected to enter and manage project data to meet the project requirements as listed in the case study.

Higher National Unit specification: statement of standards (cont)

Unit title: Project Management 1

Since a great deal of time is taken up by entering the data requirements - task names, etc, whereas the objective of the Outcome is to test the candidate's competence in both developing and managing a Project Plan, then it is recommended that candidates be issued with a part-completed Project Plan to which extra tasks can be added, and task relationships entered and amended. Likewise, a part-completed Resource Pool may be included to which candidates will add new staff details. They will also be required to create individual resource calendars, with modified working hours and modified non-working days to meet individual requirements, and to allocate these calendars to resources and/or tasks as required.

Outcome 3

Manage project information

Knowledge and/or skills

- ◆ Sorting project information
- ◆ Grouping project information
- ◆ Filtering project information
- ◆ Creating a custom table
- ◆ Creating a custom view
- ◆ Creating a custom filter
- ◆ Filtering data using predefined filters
- ◆ Creating a custom form for data entry
- ◆ Defining, displaying and updating work breakdown structure codes
- ◆ Resolving scheduling conflicts by making use of: allocating additional resources; using overtime; modifying task duration; adjusting slack; changing task constraints; adjusting dependencies; splitting a task.

Evidence requirements

Candidates must provide evidence to cover all knowledge and/or skills bulleted points by producing printouts displaying the above information meeting the requirements of the Assessment criteria.

The assessment must be undertaken in supervised conditions and is open book.

Assessment guidelines

A wide range of printouts is available within all Project Management software, and suitable examples should be selected accordingly.

The candidates should continue to use the case study scenario developed for Outcome 2 and produce printed evidence accordingly. A wide range of printouts of views of the above objects as well as screen dumps is available within all project management software. These should be selected by the centre to meet the requirements of the assessment conditions.

Higher National Unit specification: statement of standards (cont)

Unit title: Project Management 1

Outcome 4

Generate project information

Knowledge and/or skills

- ◆ Producing standard reports
- ◆ Creating custom reports
- ◆ Modifying page setup options
- ◆ Copying and pasting project information into a word processed document
- ◆ Copying and pasting project information into a spreadsheet

Evidence requirements

Candidates must provide evidence to cover all knowledge and/or skills bulleted points by producing printouts displaying the above information meeting the requirements of the Assessment criteria.

The assessment must be undertaken in supervised conditions and is open book.

Assessment guidelines

This will consist of various printouts to demonstrate the candidate's competence in the required skills. Such printouts are available within all project management software, but if Microsoft Project is being used, the following is offered as a guide (or similar printouts for other project management software packages):

- ◆ Printouts of the custom reports as required by the specifications
- ◆ Header and Footer applied to the reports printouts to meet specification requirements
- ◆ Printout of a word processed document containing copied information from the Project
- ◆ Printout of a spreadsheet containing copied information from the Project

Continuing with the same case study scenario for Outcome 3, candidates will be required to generate printouts of relevant reports as listed in the Evidence Requirements above, also making use of the page setup facilities of the project management software being used to include headers and footers on the printouts. Candidates will also be required to generate printouts of a word processed document containing a data object from the Project, and also a spreadsheet containing a data object from the Project.

Administrative Information

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Higher National Unit specification: support notes

Unit title: Project Management 1

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

Project management plays a growing and increasingly important role in the development of a wide range of organisational needs and requirements in all situations such as government, construction, engineering, medicine, science, research, as well as computing and information technology, including the selection of new software, upgrades to existing software, and also the design and installation of networked computer systems occurring in every organisation nowadays. The management of projects differs greatly from the management of day-to-day routine and repetitive systems and procedures, with constraints such as fixed start and finish dates, time schedules to be adhered to, budgets to be closely followed and managed as well as a team of highly skilled professionals to be co-ordinated and managed to achieve project goals and meet the quality standards and requirements of the client. There is therefore great pressure on project managers in all areas to manage all of these resources efficiently and effectively.

To assist with the management of projects, and to improve the efficiency and effectiveness of project managers therefore, project management software is now widely used to provide faster, easier, and more effective monitoring and management of the variables in a project, thus improving the chances of success in the completion of projects on time, within budget, and to the quality standards required. This Unit is intended to provide candidates with the knowledge and skills required to make use of such project management software to achieve these goals.

The Unit is written in generic terms, since the concepts involved are applicable and valid in all contexts of project management, and, as such, may be delivered as a stand-alone introduction to managing projects using Project Management software. As an introduction therefore, tutors delivering the unit should make use of a wide range of familiar and practical exercises such as planning a holiday, building a home extension, buying, selling and moving home, etc, so that candidates can more easily concentrate on the features and processes of the software used, before moving on to practical exercises more closely related to the candidate's vocational area, or to the Group Award area if the Unit is being delivered as part of a specific Group Award.

If the Unit is being delivered within a specific Group Award area, then it is also recommended that the assessment(s) be closely related to the Group Award cognate area within which the Unit is placed. Where the Group Award includes a project based Unit, there is the possibility of cross-assessment between this Project Management Unit and the other Unit

Although the Unit includes a range of concepts, knowledge and skills, which will require that candidates be provided with a suitable and sufficiently wide range of exercises to practice with, a holistic approach should still be considered by means of a single 'case-study' approach for the summative assessment.

Higher National Unit specification: support notes (cont)

Unit title: Project Management 1

The Outcomes for this Unit are designed to follow a standardised methodology to the development of a Project Plan using any software applications tool. Starting with setting the default options of the Project shell within which the Project will be developed. This continues with the development of the Project itself, by entering all of the data values required by the Project shell in order to calculate the Project's time and cost schedules, and also allowing the user to monitor and manage the Project more efficiently and effectively, as well as facilitating improved management of the data information contained in the project. This is followed by the need to communicate and report on the deliverables and the results of the Project Management process. This will take the form of printouts of various reports from the project management software used, as well as printouts from the relevant software applications to which project information has been copied.

Outcome 1

This Outcome provides an introduction to the software and the knowledge and skills required to be able to set the environment variables within which the Project will be developed. This includes specifying start and/or finish dates for the Project, and defining a calendar for the project, which will include specifying the working hours of the resources and the pattern of working and non-working days.

Outcome 2

This Outcome progresses onto the development of the Project Plan by entering and managing all of the data objects required to enable the software to generate the Project schedules. The data will include the tasks required, task constraints and relationships, durations, types and deadlines. This will be followed by setting up a pool of resources, resource costs and calendars for individual resources with non-default work patterns, and finally assigning these resources to the Project tasks.

Outcome 3

This Outcome introduces many of the tools available in project management software including sorting, grouping and filtering data objects, as well as creating custom objects such as tables, views and filters to further enhance the project information.

The Outcome also includes suggested solutions for resolving a range of scheduling conflicts using many of the procedures available to the Project Manager.

Outcome 4

This Outcome concerns the need to report on, and communicate the information produced by the project management software. It introduces standard and customised reports including setting headers and footers, as well copying and pasting project data objects to other applications tools such as a word processor and a spreadsheet.

Guidance on the delivery and assessment of this Unit

This Unit is capable of being delivered on its own as stand-alone introduction to the knowledge and skills required in using and applying Project Management software to enable the candidate to manage a project more efficiently and more effectively.

Higher National Unit specification: support notes (cont)

Unit title: Project Management 1

If the Unit is to be delivered as part of a Group Award, it may be located at any suitable point in the Award at the discretion of the centre. If however the Group Award contains a project based Unit, the centre should consider delivering this Unit immediately prior to the project based Unit to assist the candidate in the organisation of the human, physical and time resources involved in developing such a project.

This Unit consists of 4 Outcomes, which develop progressively the knowledge and skills required to manage the development of a project using suitable Project Management software. As such, it is recommended that a single case study be used to assess the candidate's competence in the requirements of the Unit. It is at the discretion of the centre however whether a single assessment is used or whether several assessments are used, in stages, matching the sequence of the Outcomes. Because of the amount of detail required in the Outcomes and the amount of printouts which will be required, a 'staged' approach may be the preferred model, with a series of Assessments matching the sequence of Outcomes.

The Unit may also be delivered in sequence with the follow-on *HN Unit DM2Y 35 Project Management 2*. In such cases, the contents of both these Units will cover the requirements of, and prepare the candidate for, the exams of the Microsoft Office Specialist Certification for Microsoft Project.

Open learning

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance.

A combination of new and traditional authentication tools may have to be devised for assessment and re-assessment purposes. For further information and advice, please see *Assessment and Quality Assurance for Open and Distance Learning* (SQA, February 2001 — publication code A1030).

Candidates with additional support needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements for Candidates with Additional Support Needs* (www.sqa.org.uk).

General information for candidates

Unit title: Project Management 1

In all areas of business, as well as personal life, humans are continually making plans for the development of a project. Whether it be something to do with work, such as constructing new roads or shopping malls, or designing new cars, more efficient energy sources, or at the personal level of re-designing the garden, or considering alternatives to moving home or building an extension. In all of these areas and many more, we are more than likely to follow some planning path, whether it is an officially recognised method, or some a rule-of-thumb approach we have seen used before, or simply a good guess at how it might be done.

No matter which planning method is used, we are always wiser after the event, with hindsight, as to how it could have been done better, and how we could have foreseen some of the problems before they occurred. One of the most important lessons to be learned therefore, is the need to approach the planning process in a methodical step-by-step manner, and maintain accurate records and documentation throughout.

This organisation and management of the factors involved in the planning and development process can be helped with the use of applications software, to speed up the process and also to provide instant feedback on the status of every aspect of the project development. A range of such Project Management software tools is now available to support this.

The purpose of this Unit therefore is to provide you with a sound introduction to the knowledge and skills required to use such software tools to assist in the development and management of a project plan. These skills will enable you to develop and implement a project plan, and to manage the key resources involved of time, cost, human resources and material resources. It will also provide the skills required to communicate information on the project both in report format as well as with other applications tools.

In Outcome 1 you will learn how to define and establish the environment parameters within which a project is to be developed, the starting and/or finishing dates and the calendars, or time patterns to be used by the resources, establishing working days, hours and also non-working times.

In Outcome 2 you will learn how to enter, develop and manage the information required by the project management software to enable you to manage the information and resources required. This will involve the various task details, the resource details, and the sequencing of tasks and work to be done.

In Outcome 3 you will further develop the Project Plan by using various tools such as sorting, grouping and filtering to organise the project data in a variety of ways to produce information formats to meet different client needs. You will also look at various techniques which are available to Project Managers to deal with a range of typical scheduling conflicts which may occur during the development process.

Finally in Outcome 4 you will learn how to prepare reports and communicate the information produced by the software as well as integrate project information with other software applications.

You will learn these skills by means of formative practical exercises throughout, and be assessed with a summative case study, which may be related to a project-based Unit if you are undertaking this Unit as part of a Group Award.