**Higher National unit specification**

**General information**

**Unit title:** Information Technology: Applications Software 1 (SCQF level 7)

**Unit code:** D75X 34

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| **Superclass:** | CY |
| **Publication date:** | June 2001 |
| **Source:** | Scottish Qualifications Authority |
| **Version:** | 03 (July 2017) |

## Unit purpose

This unit is designed to enable students to use Information Technology (IT) systems and applications independently to support a range of information processing activities. The unit is designed to develop a broad knowledge of the theoretical concepts, principles, boundaries and scope of IT applications. These activities will be centred on using software applications packages to meet complex information requirements while paying attention to security and the needs of other users.

## Outcomes

On successful completion of the unit the learner will be able to:

1 Operate a range of IT equipment independently, giving attention to security and to other users.
2 Use a range of software application packages to meet complex information requirements.

## Credit points and level

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

# Higher National unit specification: General information (cont)

**Unit title:**     Information Technology: Applications Software 1
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## Recommended entry to the Unit

Access to this unit will be at the discretion of the Centre, however it is recommended that learners should have sound keyboard and mouse skills and a thorough familiarity with computers and software packages. These skills may be evidenced by the achievement of appropriate National Units or Courses but they may also have been acquired in an informal or work environment.

For Core Skills it would be beneficial if learners had some IT skills. This could be demonstrated by the achievement of the Core Skill Using Information Technology at Intermediate 2 level or equivalent.

## Core Skills

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 Unit.

## Context for delivery

If this unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

This unit is included in the framework of a number of HNC and HND Group Awards. It is recommended that it should be taught and assessed within the particular Group Award to which it contributes. This unit may also be delivered and assessed in conjunction with HN unit D77A 34: *Computer Operating Systems*.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website **(http://www.sqa.org.uk/sqa/46233.2769.html)**.

## Equality and inclusion

This unit specification 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 unit specification: Statement of standards

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Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Learners 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

Operate a range of IT equipment independently, giving attention to security and to other users.

### Knowledge and/or Skills

♦ The different components of a computer system and how to use them, (ie mouse or other pointing device, keyboard, monitor, disk drive, processor, printer, scanner, etc)
♦ The functions of tools such as file managers, print managers, control panels and how to use these
♦ The ways in which data can be kept secure, (eg encryption, passwords, back ups, virus protection) and how security procedures can be used to meet the needs of all users of a computer system
♦ The causes of some common software and hardware problems, (eg cable connections, device settings, software option settings) and what action to take to resolve these

## Outcome 2

Use a range of software application packages to meet complex information requirements.

### Knowledge and/or Skills

♦ Methods for assessing information requirements and designing solutions using IT
♦ How to use straightforward and complex features of a range of software application packages (these can be word processing, spreadsheet, database, simulation, graphics, communications, (ie Internet, intranet, email, etc), audio/music, animation, video, multimedia, desktop publishing, data logging and retrieval, control or other packages)
♦ How to integrate data types within a software application package
♦ How to integrate information from more than one software application package
♦ The content and search facilities of a range of computer data sources
♦ Factors to consider when working out a search strategy when using a computer data source
♦ How to extract information from a local and a remote computer data source

# Higher National unit specification: Statement of standards (cont)

**Unit title:** Information Technology: Applications Software 1
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**Evidence Requirements for this Unit**

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes by showing that they can:

**Outcome 1**

♦ Use five hardware devices, (eg mouse, keyboard, printer, monitor, disk drive, scanner)
♦ Start up and close down the operating system
♦ Open and close software packages
♦ Locate data and applications
♦ Use a filing system, (eg to organise folders and sub-directories applying naming conventions)
♦ Use two tools within the operating system, (eg file managers, print managers and control panels)
♦ Implement security measures responsibly and with consideration for the needs of other users, (eg passwords, backups, virus protection)
♦ Resolve one hardware and one software problem, (eg printer off-line, sound not working, too many open programs, system freeze, software option settings, etc).

**Outcome 2**

♦ Identify the information requirements of users and how these requirements can be met
♦ Select software applications packages which are appropriate to meet the identified information requirements
♦ Use four or more software applications packages to process the identified information requirements and which output two or more different data types, (eg text, number, graphics, audio, video) in the form of documents, designs, compositions, models or presentations
♦ Carry out three searches to extract and present relevant information from suitable local and remote computer data sources. A minimum of two searches must be from remote computer data sources. To do this the learner will be required to:
— Plan how to find the information and make decisions about searches taking account of efficiency in terms of time, cost, effective filtering and Outcome
— Extract information, (eg text, number, graphics, audio, video) which matches several search criteria, (eg keywords, fields, file names, screen grabber, digital camera or scanner). Searches must be different from each other, eg searching two different sources, or searching the same source for two different forms of information.
♦ Integrate two or more different data types, (eg text, number, graphics, audio, video) from more than two software applications packages into a single product. The product may be in the form of a document, design, composition, model or presentation
♦ Format the product so that the final output meets the identified information requirements and is clear and helpful to users.

The evidence for this Outcome should be in the form of a document, design, composition, model or presentation covering all the Evidence Requirements shown above.

**Higher National unit Support Notes**

**Unit title:** Information Technology: Applications Software 1
(SCQF level 7)

Unit Support Notes are offered as guidance and 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

This unit provides a solid basis on which further IT skills can be built. It will enable learners to use IT systems with minimal support, paying due regard to security. Electronic data sources are to be used, learners are expected to achieve effective results when using IT software in an unfamiliar context by using on-line help facilities and suppliers handbooks. Basic configuration and faultfinding skills are to be taught. Files should be provided for learners as appropriate to negate the need for them to enter large amounts of text or data.

This unit is very much aimed at enabling learners to obtain and use data and software applications packages associated with the internet and email, ie electronic communications. Therefore, there should be considerable emphasis placed upon providing access to appropriate data and software associated with electronic communications. Candidates should then be encouraged to learn for themselves the benefits of being able to integrate information from diverse sources and produce documents, designs, compositions, models or presentations of a complex nature.

The unit can be approached from the standpoint of using information technology to support a range of information processing activities. The learner should be able to plan for, develop and produce the relevant information requirements of users.

Candidates should achieve the level of competence required of a regular user of IT applications software in a commercial or professional situation. Candidates will require individual access to a personal computer/workstation. It is suggested that, wherever possible, commercially available current versions of industry standard software be used. The component parts of an integrated software package along with its operating environment can be used to achieve all Outcomes. This should not be prohibitive in the case of the centres, but may be an issue if being undertaken in the workplace.

It is generally assumed that the environment for this unit will be, for example, Microsoft Windows and Office 97/2000 or Lotus, or other vendor equivalents, however, this is not specified and the Outcome requirements are deliberately generic in nature.

Outcome 1 looks at the components of hardware, the functions of operating system tools and how these are used. Data security measures, resolving common hardware and software problems are also pre-eminent. All of the elements should be taught in the context of giving attention to the needs of other users of a computer system.

# Higher National unit Support Notes (cont)

**Unit title:** Information Technology: Applications Software 1
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Outcome 2 looks at using a range of software packages to meet complex information requirements. Centres can choose four or more packages (a minimum of four different packages must be used) from the whole range of applications packages available. The software application packages chosen must be relevant to the vocational area of the Group Award undertaken by the learner. The emphasis in this Outcome should be on producing complex information in a context that is unfamiliar to the learner. Candidates should be able to integrate data types, (eg text, number, graphics, audio, video) into a single product and to format the product so that the final output is clear and helpful to users. Candidates should show that they can plan for the information requirements; select and use software packages appropriate to information requirements; select suitable computer data sources for information and extract suitable information from these computer data sources to meet relevant requirements.

An indication of the range of activities that learners are expected to be able to carry out when using a variety of software applications packages during the course of this unit is given below for some of the 'standard' applications that centres may use. This should not be taken to be a 'prescriptive', or indeed, an exhaustive list of requirements but should help to serve as a guide to the level of skills required.

1 Selection and use of appropriate software applications packages and electronic data sources from both local and remote computers.
2 Selection and use of document layout, page layout and format facilities, eg: views, use of toolbars, rulers, guides, zoom, fonts, bullets and numbering, borders and shading, tabs, case, dropped capitals, columns, themes, backgrounds, styles, frames, colours and lines, alignment, templates, auto-format.
3 Use of on-line help and tutorial support facilities.
4 File Handling, eg properties, naming conventions, saving, saving for use with web and other applications, retrieving, retrieving from web and other applications, copying, renaming, importing, exporting, emailing, attachments, routing, and faxing.
5 Editing, eg undo, repeat, cut, copy, paste, paste special, select all, fill, clear, find, replace, go to, rename, links, and objects.
6 Selection and use of insertions, eg headers and footers, page breaks, comments, footnotes, captions, numbering, symbols, date and time, index and tables, bookmarks, pictures, objects, hyperlinks, graphics, movies, sounds, tables, queries, forms and reports, functions, charts, comments, fields, records and files
7 Use of 'tools', eg spelling and grammar checker; thesaurus; search and replace; auto-correction; sort; merge; customisation; options; security; protection; macros (simple); on-line facilities; send and receive; address books, synchronisation, message rules, messenger services, newsgroups and accounts.
8 Printing, eg printer selection; printer properties; printer set up, eg paper size, paper type, scaling, orientation, etc; print preview; use of print preview facilities, eg zoom, multiple pages, ruler, scaling, etc.
9 Searching should involve several criteria, eg key terms or fields, and requires decisions to be made about an effective strategy for their application, eg with due regard for time, cost, effective filtering and result.
10 Extracting and presenting relevant information - relevant data may be records in a database, a photographic image, a video or audio clip. Selection/importation may involve tools such as screen grabbers, digital or video cameras and scanners.

## Higher National unit Support Notes (cont)

**Unit title:** Information Technology: Applications Software 1
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This unit is designed to enable students to use IT systems and applications independently to support a range of information processing activities. The unit is designed to develop a knowledge of the theoretical concepts, principles, boundaries and scope of IT applications. These activities will be centred on using several software application packages to meet complex information requirements. The unit will be contextualised for the HNC Computer Games Development course by cross assessing it with part of D76V 35 *Object Oriented Programming*. In that unit the learners have to create a technical manual and player guide. This would make for a practical and enjoyable method of learners achieving Outcome 2 for IT Applications Software 1.

It forms part of the HNC Computer Games Development Group Award and should be delivered within the context of the Group Award.

Instrument of assessment

There are two Outcomes, both largely of a practical nature.

Outcome 1: Prove Knowledge and/or Skills of; the different components of a computer system, the function of tools such as file manager, print manager and control panel, the ways in which data can be kept secure and the causes of common software and hardware problems and how to resolve them.

Outcome 2: Uses a range of software application packages, (at least four) to meet complex information requirements. The learners will be given a comprehensive checklist of all evidence required to successfully complete this Outcome. They will then have to create a technical manual and player guide indicating on the checklist exactly where each requirement has been met. Given the complexity of the technical manuals and user guides shipped with today's games, this should make for a demanding, but hopefully enjoyable experience.

## Guidance on approaches to delivery of this Unit

This unit is designed to enable learners to use IT systems independently to support a range of information processing activities. Early inclusion of this unit in the Group Award is preferable as students should then be able to present work for other Units using the skills learned in this Unit.

During the course of the unit learners should have several opportunities to develop their practical skills and should then be assessed appropriately.

Assessment should be by one project or case study. Candidates should have access to on-line help, tutorial support and/or suppliers' manuals as required.

Outcome 1 may be cross assessed/integrated with the HN unit D77A 34:Computer Operating Systems. With this in mind, it may be appropriate to deliver this unit and HN unit D77A 34: Computer Operating Systems concurrently.

## Higher National unit Support Notes (cont)

**Unit title:** Information Technology: Applications Software 1
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Individual centres will need to plan Outcome 2 to ensure that such resources as the Internet Service Provider, compact discs, available telephone lines, modems, software application packages and operating systems updates are available prior to commencement of the Unit.

If this unit is being delivered as part of a Professional Development Award which receives endorsement from a vendor such as Microsoft, it must be delivered and evidence generated as detailed in the document "Approval to certification" which is associated with that particular vendor and the Professional Development Award.

## Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

**Outcome 1**

This Outcome may also be assessed in conjunction with the HN unit D77A 34: *Computer Operating Systems.*

**Outcome 2**

The emphasis in this Outcome should be on producing complex information in a context which is unfamiliar to the learner. Centres may wish to complete an observation checklist to keep track of the learner's development in the use of the four chosen software applications packages. The software application packages chosen must be relevant to the vocational area of the Group Award undertaken by the learner.

## Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**.

**Higher National unit Support Notes (cont)**

**Unit title:** Information Technology: Applications Software 1
(SCQF level 7)

**Opportunities for developing Core and other essential skills**

This Unit gives automatic certification of the core skill: *Using Information Technology* at Higher level.

## History of changes to Unit

| Version | Description of change | Date |
|---------|----------------------|------|
| 03 | Unit updated onto current template July 2017. | 07/07/17 |
| 02 | | 01/06/07 |
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## General information for learners

**Unit title:**     Information Technology: Applications Software 1
                    (SCQF level 7)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

This unit is designed to enable you to use IT systems and applications independently to support a range of information processing activities. You should develop a broad knowledge of the theoretical concepts, principles, boundaries and scope of IT Applications. By the end of the unit you should have learned how to plan for, develop and produce the relevant information requirements of users.

To meet the requirements of users you will be required to use and develop a broad range of skills in a range of software applications packages, (a minimum of four), such as, word processor, spreadsheet, database, simulation, graphics, communications, (ie Internet, intranet, email, etc), audio/music, animation, video, multimedia, desktop publishing, data logging and retrieval, control or other packages.

On successful completion of the unit you will be able to:

1     Operate a range of IT equipment independently, giving attention to security and to other users.
2     Use a range of software packages to meet complex information requirements.

In Outcome 1 you will learn about the components of hardware, the functions of operating system tools and how these are used. You will also learn about data security measures and resolving common hardware and software problems. You will learn about all of the elements above in the context of meeting the needs of all users of a computer system.

In Outcome 2 you will learn about how to use a range of software packages to meet complex information requirements. You will learn about a minimum of four different software packages from the whole range of applications packages available. The emphasis in this Outcome will be on producing complex information in a context that is unfamiliar to you. You will learn how to integrate data types, (eg text, number, graphics, audio, video) into a single product and to format the product so that the final output is clear and helpful to users. You will find out how to: plan to meet users' information requirements; select software packages appropriate to information requirements; select suitable computer data sources for information and extract suitable information from these computer data sources to meet relevant user requirements.

To complete this unit successfully, you must demonstrate a satisfactory level of performance in a number of tasks covering the Outcomes listed above. You must provide evidence of the work you carry out for each assessment task in the form of a set of printed documents with a front cover: each print having details of your name, the date and the task. You will be encouraged to access on-line help facilities, tutorial support and/or supplier's manuals as required.

More detailed guidance on the content, amount, style and quality required of your work will be made available to you during your progress through the Unit.

## General information for learners (cont)

**Unit title:** Information Technology: Applications Software 1
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Your assessor will observe you carrying out the assessment tasks, and will complete an observation checklist to certify that each of your prints is your own work and whether or not it has reached the required standard.