

Higher National Unit Specification

General information for centres

Unit title: Internet: Introducing e-Commerce

Unit code: DH39 34

Unit purpose: This Unit is designed to provide the candidate with a broad knowledge of the theoretical concepts, principles, boundaries and scope of electronic commerce (e-commerce). The Unit introduces the key features of e-commerce, examines the business-to-business and business-to-consumer models and considers the security requirements for e-commerce. Current terminology is introduced as appropriate. The Unit is primarily intended for candidates in computing or business studies. It would also be relevant to those with appropriate work experience with organisations using or developing e-commerce systems.

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

1. Describe the key features of e-commerce.
2. Describe the business-to-consumer model of e-commerce.
3. Describe the business-to-business model of e-commerce.
4. Describe the security requirements of e-commerce.

Credit value: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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 candidates had a good working knowledge of the Internet. This may be evidenced by possession of appropriate National Units or significant previous experience of working with the Internet.

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 components.

Context for delivery: 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 context of the particular group award to which it contributes.

General information for centres (cont)

Assessment: Outcomes 1, 2 and 3 are assessed by a number of multiple-choice questions testing knowledge and/or skills.

Outcome 4 is assessed with a report of approximately 700 – 900 words and the assessor must assure themselves of the authenticity of the candidate's submission. Candidates are required to list references in the form of footnotes.

Some of the evidence requirements may be produced using e-assessment. This may take the form of e-testing (for knowledge and understanding) and/or e-portfolios (for practical abilities). There is no requirement for you to seek prior approval if you wish to use e-assessment for either of these purposes so long as the normal standards for validity and reliability are observed. Please see the following SQA publications for further information on e-assessment: (1) "SQA Guidelines on Online Assessment for Further Education" (March 2003) and (2) "Assessment & Quality Assurance in Open & Distance Learning" (Feb. 2001).

If a centre is presenting Outcomes 1, 2 and/or 3 on-line the following assessment methods, where appropriate, may be selected –

- ◆ Multiple-choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ A combination of the above

It is expected that the questions will be of the multi-choice variety. Centres may consider the use of alternative questions types, particularly if using Computer Assisted Assessment approaches. However, care should be taken that the questions are valid and at an appropriate level. The use of simple true/false question responses is unlikely to achieve this.

Higher National Unit specification: statement of standards

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

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. 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

Describe the key features of e-commerce

Knowledge and/or skills

- ◆ Traditional and electronic business processes
- ◆ Benefits of e-commerce
- ◆ Role of the Internet in e-commerce
- ◆ Business models for e-commerce

Evidence requirements

Evidence for all the knowledge and/or skills in this Outcome will be assessed using 20 multiple-choice questions covering all bullet points equally. Different assessment instruments should also be used for reassessment purposes.

The main areas introduced in the assessment should cover:

- ◆ Comparing traditional and electronic business processes, eg obtaining product information, ordering, payment, fulfilment and service and support
- ◆ Identifying the benefits of e-commerce, eg immediacy, 24-hour availability, speed, global markets, interactivity, reduction in paperwork etc
- ◆ Outlining the role of the Internet in e-commerce, eg data transfer and applications protocols required in supporting e-commerce, value-added networks
- ◆ Describing the business models for e-commerce, eg online catalogues, e-shops, e-procurement, e-malls, e-auctions.

Assessment must be undertaken in supervised conditions and is closed book. A candidate should complete this assessment within one hour. Candidates may not bring to the assessment event any notes, textbooks, handouts or other material.

Candidates must answer at least 60% of the questions correctly.

Higher National Unit specification: statement of standards (cont)

Unit title: Internet: Introducing e-Commerce

Assessment guidelines

There is an opportunity for a candidate to be assessed on-line subject to meeting the prescribed assessment conditions.

If a centre is presenting this assessment on-line the following assessment methods, where appropriate, may be selected –

- ◆ Multiple-choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ A combination of the above

Outcome 2

Describe the business-to-consumer model of e-commerce

Knowledge and/or skills

- ◆ Characteristics of the business-to-consumer market for e-commerce
- ◆ Techniques for marketing directly to consumers
- ◆ Consumer demographics
- ◆ Methods of building and maintaining customer loyalty

Evidence requirements

Evidence for all the knowledge and/or skills in this Outcome will be assessed using 20 multiple-choice questions covering all bullet points equally. Different assessment instruments should also be used for reassessment purposes.

The main areas introduced in the assessment should cover:

- ◆ Describing the business-to-consumer market for e-commerce, including one-to-one marketing, customised web pages and information-only products
- ◆ Identifying techniques for marketing directly to consumers: targeted e-mail, special offers
- ◆ Identifying consumer demographics such as age, location, education and means of access
- ◆ Describing methods of building and maintaining customer loyalty: communication, reduced transaction costs, improved service levels.

Assessment must be undertaken in supervised conditions and is closed book. A candidate should complete this assessment within one hour. Candidates may not bring to the assessment event any notes, textbooks, handouts or other material.

Higher National Unit specification: statement of standards (cont)

Unit title: Internet: Introducing e-Commerce

Candidates must answer at least 60% of the questions correctly.

Assessment guidelines

There is an opportunity for a candidate to be assessed on-line subject to meeting the prescribed assessment conditions.

If a centre is presenting this assessment on-line the following assessment methods, where appropriate, may be selected –

- ◆ Multiple-choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ A combination of the above

Outcome 3

Describe the business-to-business model of e-commerce

Knowledge and/or skills

- ◆ Characteristics of the business-to-business market for e-commerce
- ◆ Strategies for marketing to businesses
- ◆ Value chains in electronic commerce

Evidence requirements

Evidence for all the knowledge and/or skills in this Outcome will be assessed using 20 multiple-choice questions covering all bullet points equally. Different assessment instruments should also be used for reassessment purposes.

The main areas introduced in the assessment should cover:

- ◆ Describing the business-to-business market for e-commerce: size of market, time constraints on buyers
- ◆ Describing strategies for marketing to businesses: branding, customer centric approach, value innovation, intellectual assets, use of IT, integration of services etc
- ◆ Describing value chains in electronic commerce: design, production, marketing, fulfilment and customer support.

Higher National Unit specification: statement of standards (cont)

Unit title: Internet: Introducing e-Commerce

Assessment must be undertaken in supervised conditions and is closed book. A candidate should complete this assessment within one hour. Candidates may not bring to the assessment event any notes, textbooks, handouts or other material.

Candidates must answer at least 60% of the questions correctly.

Assessment guidelines

There is an opportunity for a candidate to be assessed on-line subject to meeting the prescribed assessment conditions.

If a centre is presenting this assessment on-line the following assessment methods, where appropriate, may be selected –

- ◆ Multiple-choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ A combination of the above

Outcome 4

Describe the security requirements of e-commerce

Knowledge and/or skills

- ◆ Electronic payment systems used on the Internet
- ◆ Benefits of encryption
- ◆ Encryption methods
- ◆ Digital certificates

Evidence requirements

Evidence for all the knowledge and/or skills in this Outcome must be a report of approximately 700-900 words covering all of Knowledge and/or Skills. Evidence for the requirements will be gathered from candidates in the form of an extended response to individual research undertaken covering each of the bullet points listed in the knowledge and/or skills of approximately 700 - 900 words. Each candidate will need evidence to show that s/he can accurately:

- ◆ Describe electronic payment systems used on the Internet: credit cards, digital cash, electronic cheques; EFT and EDI; standards (SSL, SET, JEPI)
- ◆ Outline the benefits of encryption: identifying senders, authenticating message content preventing denial of ownership and protecting privacy

Higher National Unit specification: statement of standards (cont)

Unit title: Internet: Introducing e-Commerce

- ◆ Compare encryption methods: secret key, public key, digital signatures
- ◆ Describe the use of digital certificates, eg classes of certificate, role of certificate authorities.

This assessment is open book.

Candidates are required to list references in the form of footnotes or bibliography. The assessment activity involving this practical work must be carried out in conditions sufficient that the assessor has confidence in the authenticity of each submission, ie that it is the candidate's own.

Assessment guidelines

Where appropriate candidates should draw on experiences (if applicable), use web sites, textbooks, handouts giving examples, tables, forms and diagrams.

Administrative Information

Unit code:	DH39 34
Unit title:	Internet: Introducing e-Commerce
Superclass category:	AA
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Higher National Unit specification: support notes

Unit title: Internet: Introducing e-Commerce

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

This Unit is designed to provide the candidate with a broad knowledge of the theoretical concepts, principles, boundaries and scope of electronic commerce (e-commerce). The Unit introduces the key features of e-commerce, examines the business-to-business and business-to-consumer models and considers the security requirements for e-commerce. Current terminology should be introduced as appropriate. The Unit is primarily intended for candidates in computing or business studies. Topics should be illustrated by visiting e-commerce web sites and candidates should be encouraged to conduct their own research and have access to the Internet for this purpose.

Outcome 1

Candidates should be able to describe how the various business processes are carried out by traditional and electronic means, eg obtaining product information, ordering, payment, fulfilment, and service and support. This could be demonstrated by showing how various products or services could be obtained by traditional (visiting a supplier, telephone, mail order) or electronic means.

Candidates should be able to identify the benefits of e-commerce, including immediacy, 24-hour availability, speed, global markets, interactivity, reduction in paperwork etc.

Candidates should be aware of the structure and growth of the Internet and the demographics of Internet users. They should also be aware of the tension between the original academic role of the Internet and its current commercial use. They should know about the underlying infrastructure of data transfer and applications protocols required to support e-commerce. They should also be aware of the existence of other networks, such as value-added networks and the growing convergence between communications systems.

They should be able to describe business models for e-commerce, including online catalogues, e-shops, e-procurement, e-malls, e-auctions, virtual communities, third-party marketplaces, information brokerage, trust and other services.

Outcome 2

Candidates should be able to describe the business-to-consumer market for e-commerce, including the importance of one-to-one marketing, customised web pages (eg suggesting suitable books or CDs to customers based on past choices), custom solutions and information-only products.

They should be able to identify techniques for marketing directly to consumers, such as targeted email and special offers.

Higher National Unit specification: support notes (cont)

Unit title: Internet: Introducing e-Commerce

They should be aware of the demographics of Internet consumers, including age, location, education and means of access.

Candidates should be able to describe methods of building and maintaining customer loyalty such as maintaining continuous and informative communication with customers and increasing perceived value by reducing transaction costs and improving service.

Outcome 3

Candidates should be able to describe the business-to-business market for e-commerce. They should realise that it is significantly larger than the business-to-consumer market and that business buyers do not have the same amount of time to spend browsing for products.

They should be able to describe strategies for marketing to businesses, eg branding, customer centric approach, value innovation, use of intellectual assets, use of IT, integration of services etc.

They should be able to describe the components of value chains in electronic commerce, (eg design, production, marketing, fulfilment and customer support) and the importance of secondary services such as procurement and human resource management in supporting value chains. The importance of information and its use in providing new products and services to create a virtual value chain should also be considered.

Outcome 4

Candidates should be able to describe electronic payment systems (credit cards, digital cash, electronic cheques etc) and relate these to their point-of-sale analogues. Candidates should recognise the importance of authorisation, assurance and privacy and be able to describe the use of EFT (electronic funds transfer) and EDI (electronic data interchange) for business-to-business transactions. Candidates should be aware of standard such as Secured Sockets Layer (SSL), Secured Electronic Transactions (SET) and the Joint Electronic Payments Initiative (JEPI).

Candidates should be able to outline the benefits of encryption as a means of identifying senders, authenticating message content preventing denial of ownership and protecting privacy.

Candidates should be able to compare encryption methods, including secret key (symmetric key) and public key cryptography and the use of digital signatures.

Candidates should also be able to describe the use of digital certificates, including classes of certificate and the role of certificate authorities.

This Unit is likely to form part of a group award that is primarily designed to provide candidates with technical or professional knowledge and skills in the Computing field.

Assessment will normally be by short stand-alone assessments for each Outcome, undertaken as and when appropriate.

Higher National Unit Specification: Support Notes (cont)

Unit title: Internet: Introducing e-Commerce

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).

Special needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, 2001).

General information for candidates

Unit title: Internet: Introducing e-Commerce

This Unit is about the rapidly-developing area of electronic commerce (e-commerce). It has four main areas, each of which is the subject of a separate Outcome. To begin with you will look at key features of e-commerce systems, including traditional and electronic business transactions, the benefits of e-commerce and the use of the Internet to support e-commerce and the business models used.

Next, you will look at the business-to-consumer market for e-commerce, including techniques for marketing directly to consumers, consumer demographics and methods of building and maintaining customer loyalty.

Then you will consider the business-to-business market for e-commerce, including strategies for marketing to businesses and value chains in e-commerce.

Finally, you will look at the security requirements for e-commerce. This will include the electronic payment systems used on the Internet, the methods and benefits of encryption and the use of digital certificates.

Overall, you will be expected to develop a broad knowledge of the concepts, principles, boundaries and scope of e-commerce.

In order to complete this Unit successfully, you will be required to achieve all assessed work.