Accredited

Cambridge TECHNICALS

OCR LEVEL 3 CAMBRIDGE TECHNICAL

CERTIFICATE/DIPLOMA IN

IT

INFORMATION SYSTEMS

/601/7256

EVEL 3 UNIT 2

GUIDED LEARNING HOURS: 60

UNIT CREDIT VALUE: 10

OCR

INFORMATION SYSTEMS

H/601/7256

LEVEL 3 UNIT 2

AIM OF THE UNIT

The purpose of this unit is to demonstrate the information organisations hold and how this is valuable to an organisation. This unit will help the learner understand the legislation governing information which flows into and out of an organisation and the constraints and limitations that apply to it. The learner will discover that if systems are in place, and information held is correct then the communication within the organisation is a powerful tool and can give any organisation a competitive edge.

This will provide the learner with a greater understanding of how organisations use information internally and externally and the types of information they will encounter. The skills gained by completing this unit will give the learner knowledge of the functionality of information and to produce management information systems.

ASSESSMENT AND GRADING CRITERIA

Learning Outcome (LO) The learner will:	Pass The assessment criteria are the pass requirements for this unit. The learner can:	Merit To achieve a merit the evidence must show that, in addition to the pass criteria, the learner is able to:	Distinction To achieve a distinction the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
1 Understand how organisations use business information	P1 explain how organisations use information		
	P2 discuss the characteristics of good information	M1 assess the improvements which can be made to an identified organisation's business information systems	
2 Understand the issues related to use of information	P3 explain the issues related to the use of information		D1 compare legal, ethical and operational issues that may affect organisations
3 Know the features and functions of information systems	P4 describe the features and functions of information systems		
	P5 identify the information systems used in a specified organisation	M2 illustrate the input and output of information within a specified functional area of an organisation	D2 analyse the legal and ethical implications of the illustrated input and outputs
4 Be able to use IT tools to produce management information	P6 select information to support a business decision-making process		
	P7 use IT tools to produce management information	M3 explain the value of a management information system	

TEACHING CONTENT

The unit content describes what has to be taught to ensure that learners are able to access the highest grade.

Anything which follows an i.e. details what must be taught as part of that area of content.

Anything which follows an e.g. is illustrative, it should be noted that where e.g. is used , learners must know and be able to apply relevant examples to their work though these do not need to be the same ones specified in the unit content.

LO1 Understand how organisations use business information

- Purposes of information:
    - operational support (e.g. monitoring and controlling activity)
    - analysis (e.g. to identify patterns or trends)
    - decision making (e.g. operational, tactical, strategic)
    - marketing and sales
    - communication
    - flow (e.g. internally and externally).

- Categories of Information:
    - sales
    - purchasing
    - competitor
    - manufacturing
    - marketing
    - finance
    - operations
    - human resources
    - administration.

- Sources:
    - internal (e.g. financial reports, market analysis)
    - external (e.g. government, suppliers, trade bodies)
    - primary data
    - secondary data
    - types
        - qualitative data
        - quantitative data.

- Handling of Information:
    - data v information
    - collection and storage
    - manipulation
    - retrieval
    - analysis
    - presentation.

- Standard of information
    - reliability
    - validity
    - relevance
    - time frame

- accessible
- quality
- cost-effective
- appropriate.

LO2 Understand the issues related to use of information

- Legal issues:
    - data protection legislation (e.g. Data Protection Act 1998)
    - Freedom of Information Act 2000
    - other relevant legislation (e.g. Computer Misuse Act 1990)
    - copyright considerations.

- Ethical issues:
    - examples of ethical issues (e.g. moral, whistle blowing, disability, use of information)
    - codes of practice (e.g. email, internet, internal policies, intellectual property, content)
    - other (e.g. reporting bad practice or breaches).

- Operational Issues:
    - security of information (e.g. backups)
    - health and safety (e.g. processes, procedures, regulations)
    - organisational policies
    - costs (e.g. for development, modification, training, system upgrades)
    - continuance planning.

- Types of organisation:
    - public
    - private
    - not-for-profit

LO3 Know the features and functions of information systems

- Features:
    - data
    - people
    - hardware

- software
- communication/data flows.

- Function:
  - data input and storage
  - processing, reporting and analysis
  - closed and open systems.

- Types of information systems:
  - management information systems (MIS) including features, benefits and suitability for purpose
  - marketing analysis
  - human resources (HR) (e.g. staffing, training and development)
  - financial (e.g. sales, costings, investment returns)
  - competitors.
  - customer relationship management (CRM)
  - decision support system

- Hierarchy of decision making
  - senior management
  - middle management
  - support staff

LO4 Be able to use IT tools to produce management information

- Selecting information:
  - define scope (e.g. content, detail, timescales, constraints)
  - identify potential sources
  - source and select information.

- Tools:
  - software (e.g. databases such as CRM, ERP, KMS)
  - artificial intelligence and expert systems
  - predictive modelling and forecasting;
  - internet searches and facilities
  - others.

DELIVERY GUIDANCE

Understand how organisations use business information

The learners should firstly be introduced to the purpose of information giving every day examples of information they have access to, where it comes from and where it flows to. One example could be the use of social networking where learners see a post and pass the information seen on to others. Another example could be on the news where a world event is reported. The tutor discuss and explain primary and secondary sources of information and in groups the learners should discuss and identify examples which they would then place into the correct category. The tutor should then extend the information the learners are working with to identify the format providing examples of qualitative and quantitative data.

Learners should then consider the purpose of information they are discussing such as to inform (the news), educate (documentaries or applications), sell (advertisements) etc.

Learners should then be involved in discussion and exercises to specify the information characteristics for the following:
• reliability of data sources
• validity
• relevance
• time frame
• accessible
• quality
• cost-effective
• level of source
• understandable by the user.

Learners can be assessed for knowledge and understanding using a quiz giving scenarios and using a voting scheme.

Learners must then focus on an organisation and identify the types of internal or external information which flows in and out of it and samples should be prepared by the tutor for the activity. Organisations are broken down into many departments and the categories of information from each is another consideration and learners will need to be made aware of organisational structures to enable them to understand the categories information contained within those departments as well as their functions.

Functional areas producing information within an organisation may include:
• Sales
• Purchasing
• Manufacturing
• Marketing
• Finance
• Operations
• Personnel
• Administration
• IT.

Departments may be combined such as Sales and Marketing however may have different functions within them. These departments should then be further investigated perhaps by small groups as to the types and sources of information they would work with. This information can be fed back to the larger group to identify data flows. Guest speakers from the management team could answer questions regarding their company's information systems or arrange a visit to a local company looking at their departments and functions. This will give them a holistic view of all characteristics relation to information flows, sources, quality etc.

Understand the issues related to use of information

This should be delivered by the tutor and an overview of the legislation related to the use of information and learners should research and discuss these in more details to include a summary of the purpose, implications and where it applies. This may be in small groups presenting to the larger group their findings on:

Legislation:
• Data Protection Act 1998
• Freedom of Information Act 2000
• Computer Misuse Act 1990
• Copyright.

To consolidate learning tutors could provide several brief scenarios to learners which will contain situations regarding legality. The groups could then discuss which legal issues apply. This will stimulate the learner to research further and embed the knowledge pertaining to legal issues. Within the groups discuss the affect different outcomes will have on organisations.

Learners should be taught the ethical issues and considerations and should be encouraged to research to find examples in the media where there have been ethical issues within organisations and what they were. This could be done as small groups reporting back or individual work discussed with the group.

Learners should then investigate the operational issues that need to be considered with regards to the use of information. Using an example of an identified organisation, class discussion should be initiated regarding topics such as whistle blowing and information ownership both of which learners like to explore. This will embed for the learner the difference between, what is legal and what is ethical. Give examples of operational issues regarding backing up of their work and Health & Safety.

Know the features and functions of information systems
The tutor should deliver information relating to all the features of information systems. Tutors should compare and contrast the features and functions with the learner as part of a group discussion to identify differences in requirements for information system. Using an example of an organisation and departments having to merge for example Sales moving into Marketing rather than separate departments would give opportunities for the tutor to encourage discussion on what the IT administration would need to consider once the department has merged. Learners could be in groups with different companies with merging departments or a department disappearing. How will the company's information systems function?

The tutor should select an organisation to explore with the learners, taking into account the company's systems. The tutor needs to describe the system and how it works, giving examples of the systems using Data Flow Diagrams to illustrate the input and output of information. Using free software such as "SmartDraw" the DFD can easily be created with industry recognised symbols for the learner to be familiar with. Splitting the learners into groups and letting them work on a DFD of a certain procedure for example, the student enrolment process. Later, take into account the legal implications relating to the storage and flow of the learners information as discussed within the group.

Be able to use IT tools to produce management information
The tutor should ensure that learners are aware of a range of IT tools that they can use to produce management information. They should understand the potential sources of information and the reliability of that information source. An example that learners could consider would be an organisation with a product which sells well, or a product that cannot sell at all and this must be part of the company's contingency plans and decision making process. The company must consider faulty products which need to be returned. This can be illustrated in a range of formats but a simple spreadsheet displaying a variety of products which have sold, returned or stock that is clearly not selling is a very visual example for learners. The tutor should discuss with the learners what decisions they would make to help to keep the business profitable.

Using the data discussed as part of their investigation into the decision making process learners could create graphs or charts or presentations to illustrate and back up good decision making for the business. They should be taught to check their information and sources to ensure the data they use is valid and accurate. In class discussion, explore the usefulness of such a management tool and the outcomes which may follow.

SUGGESTED ASSESSMENT SCENARIOS AND TASK PLUS GUIDANCE ON ASSESSING THE SUGGESTED TASKS

Assessment criterion: P1

Evidence could be in the form of a report or presentation in which learners must explain how organisations use information. They should include the differences between qualitative and quantitative data as well as primary and secondary sources of information, giving examples of each relating to a business environment. Evidence of considering internal or external information flowing into and out of an organisation must also be evidenced by the learner. Diagrams could be used to evidence the flow of information which must be provided by the learner.

Assessment criteria: P2, M1

The learner must discuss the characteristics of good information to identify what classes as "good" information. This may be a continuation of P1 as evidence but should be a clear addition to it. The learner should consider the following: validity, reliability, timeliness, appropriateness, suitability, accessibility, cost effective, sufficiently accurate, relevant and could use examples of business departments to apply these criteria based on the various types and purposes of information available. This could alternatively be evidenced separately but must also detail how information can be checked and identified as "good".

For the merit criterion M1 the learner must demonstrate an understanding of the information systems of a given specified organisation and must be able to identify improvements required to include the characteristics they have already covered. This may be an extension of P2. The learners must assess a range of areas for improvements from which at least two improvements to business systems should be made with explanations and examples. This could be in a report or presentation.

Assessment criteria: P3, D1

Evidence could be a report or a presentation demonstrating the learners understanding of the issues related to the use of information which must include those in the teaching content. Learners must also evidence the ethical issues and the operational issues. They should explain how these impact on organisations in general.

For a distinction criterion D1, evidence must include a comparison of at least two criteria for each of the legal, ethical and operational

issues and how they affect at least two different organisation types. This evidence could be an extension of P3 but should compare the examples. Evidence of effects on the organisation must be clearly explained within the learner evidence.

Assessment criterion: P4

Evidence could be presented in the form of a report or presentation and learners must describe the generic features and functions of information systems including reference to specific types of systems that could be used.

Assessment criteria: P5, M2, D2

Evidence could be made in the form of a report or presentation. A business scenario must be provided to the learner to enable them to identify potential information systems used. The learner must clearly identify the business and information processes, and describe the information system, its purpose and how it works.

For merit criterion M2, evidence of at least a minimum of two DFDs must be provided to illustrate two complete processes within a specified functional area of the organisation. Free software from the internet for DFDs are available for download onto the learners own computer to draw out the DFDs, hand drawn alternatives are also acceptable and could be scanned into a report or presentation. The learner must check each process to ensure that they have used the industry recognised symbols. The learner must ensure they check and correct any errors.

The distinction criteria D2 is an extension of the work evidenced in M2. Learners must analyse the legal and ethical implications on the data flows that they have identified in their diagrams. Their diagrams could be annotated to identify these and/or a separate detailed report used.

Assessment criterion: P6

Evidence could be in the form of a spreadsheet containing information taken from business scenario the learners have worked with. The learner must illustrate their ability to select information accurately to support the decision making process for a specified organisation. The learner must explain their choices for the types of information selected.

Assessment criteria P7, M3

Evidence could be in the form of graphs or charts to illustrate their use of IT tools but the learner must justify their presentation format. Graphs or charts or the presentation format must show the detail of the data along with clear labelling of content and the purpose of the produced information should be clearly explained. Learners must check to ensure the data is valid and accurate.

For the merit criterion M3 which could be an extension of P7, learners must explain the value of the management tool they selected and the business decisions based on it which may follow.

MAPPING WITHIN THE QUALIFICATION TO THE OTHER UNITS

Unit 5   Organisational systems security

Unit 20   Impact of the use of IT on Business Systems

Unit 25   Data Analysis and design

LINKS TO NOS

6.1 Information Management

CONTACT US

Staff at the OCR Customer Contact Centre are available to take your call between 8am and 5.30pm, Monday to Friday.

We're always delighted to answer questions and give advice.

Telephone 02476 851509
Email cambridgetechnicals@ocr.org.uk
www.ocr.org.uk