

e-Quals Unit Syllabus

Level 2 Designing and creating spreadsheets
7266/7267-023



About City & Guilds

City & Guilds is the UK's leading provider of vocational qualifications, offering over 500 awards across a wide range of industries, and progressing from entry level to the highest levels of professional achievement. With over 8500 centres in 100 countries, City & Guilds is recognised by employers worldwide for providing qualifications that offer proof of the skills they need to get the job done.

City & Guilds Group

The City & Guilds Group includes City & Guilds, ILM (the Institute of Leadership & Management) which provides management qualifications, learning materials and membership services, NPTC which offers land-based qualifications and membership services, and HAB (the Hospitality Awarding Body). City & Guilds also manages the Engineering Council Examinations on behalf of the Engineering Council.

Equal opportunities

City & Guilds fully supports the principle of equal opportunities and we are committed to satisfying this principle in all our activities and published material. A copy of our equal opportunities policy statement *Access to assessment and qualifications* is available on the City & Guilds website.

Copyright

The content of this document is, unless otherwise indicated, © The City and Guilds of London Institute 2007 and may not be copied, reproduced or distributed without prior written consent.

However, approved City & Guilds centres and learners studying for City & Guilds qualifications may photocopy this document free of charge and/or include a locked PDF version of it on centre intranets on the following conditions:

- centre staff may copy the material only for the purpose of teaching learners working towards a City & Guilds qualification, or for internal administration purposes
- learners may copy the material only for their own use when working towards a City & Guilds qualification
- the *Standard Copying Conditions* on the City & Guilds website.

Please note: National Occupational Standards are not © The City and Guilds of London Institute. Please check the conditions upon which they may be copied with the relevant Sector Skills Council.

Publications

City & Guilds publications are available on the City & Guilds website or from our Publications Sales department at the address below or by telephoning +44 (0)20 7294 2850 or faxing +44 (0)20 7294 3387.

Every effort has been made to ensure that the information contained in this publication is true and correct at the time of going to press. However, City & Guilds' products and services are subject to continuous development and improvement and the right is reserved to change products and services from time to time. City & Guilds cannot accept liability for loss or damage arising from the use of information in this publication.

City & Guilds

1 Giltspur Street

London EC1A 9DD

T +44 (0)20 7294 2800

F +44 (0)20 7294 2400

www.cityandguilds.com

enquiry@cityandguilds.com

Contents

Unit 023 Designing and creating spreadsheets

Syllabus Overview	2
Outcome 1 Design a spreadsheet to meet a given specification	4
Outcome 2 Input and test a spreadsheet	6
Outcome 3 Link, import and extract data	7
Outcome 4 Produce graphs and charts	8
Outcome 5 Export and print spreadsheets	9
Unit record sheet	10

Unit 023 Designing and creating spreadsheets

Syllabus Overview

Rationale

A candidate who successfully completes this unit will be able to implement spreadsheet applications, design and create spreadsheets, to use spreadsheets to import data and produce abstracts, and to summarise data with charts.

The aim of this unit is to provide candidates with an intermediate level of skills and knowledge to competently prepare for, and perform a variety of *spreadsheet related tasks* using Information and Communication Technologies (ICT). Candidates will develop a more demanding understanding of the spreadsheet application and the operating system in everyday usage and the ability to work in a generally unsupervised role solving issues competently without direction.

Learning outcomes

There are **five** outcomes to this unit. The candidate will be able to:

- Design a spreadsheet to meet a given specification
- Input and test a spreadsheet
- Link, import and extract data
- Produce graphs and charts
- Export and print spreadsheets

Guided learning hours

It is recommended that 65 hours should be allocated for this unit. This may be on a full time or part time basis.

Connections with other qualifications

This unit contributes towards the knowledge and understanding required for the following qualifications:

IT Users N/SVQ (ITQ) Level 2

Outcome	Unit
1, 2, 3	201 Make selective use of IT 2
1, 2, 3, 4	202 Operate a computer 2
1, 2, 3	208 Word processing software 2
1, 2, 3	209 Spreadsheet software 2
1, 2, 3, 4, 5	217 Use IT systems 2

Key Skills

This unit contributes towards the Key Skills in the following areas:

Application of number	N 1.3, N 2.1, N 2.2
Communication	C 2.3
IT	IT 2.3
Working with others	
Problem solving	PS 2.1, PS 2.2, PS 2.3
Improving own learning	

ICT Skills for Life

Level 2 – 2.1

Using ICT systems	
Finding and exchanging information	-
Developing and presenting information	Level 2 – 6a.1, 6a.2, 6a.4, 6a.5, 6c.1, 6c.2, 6c.3, 7.1

Assessment and grading

Assessment will be by means of a **set assignment** covering both practical activities and underpinning knowledge.

Unit 023

Designing and creating spreadsheets

Outcome 1

Design a spreadsheet to meet a given specification

Practical activities

The candidate will be able to:

- 1 create a data capture form to facilitate data input
- 2 identify data in a spreadsheet specification eg
 - a data to be input
 - b data generated while processing
 - c output data required
- 3 plan a spreadsheet structure to include eg
 - a data labels, column and row titles
 - b hidden and/or protected cells
 - c cell and range naming
 - d worksheet naming
 - e absolute and relative sheet and cell references
 - f header/footer information
- 4 use suitable formats for data
 - a alignment eg left, centre, right
 - b text enhancements eg bold, italic, underlined
 - c cell attributes eg size, borders, background
 - d numbers eg general, fixed, percentage, currency, date/time
- 5 perform calculations using formulas
- 6 perform calculations using functions eg
 - a maximum
 - b minimum
 - c count
 - d round
 - e date
- 7 create and use IF statements
- 8 calculate the result of IF statements
- 9 use the LOOKUP function
- 10 define the printout required for a given application
 - a page size & orientation,
 - b margins, multi-page or fit-to-page
 - c headers and footers
- 11 create test data to validate the spreadsheet with associated results of independent calculations eg representative, marginal, rogue and extreme values.

Underpinning knowledge

The candidate will be able to:

- 1 describe the need for accuracy in design, data input and clear output
- 2 distinguish between input data, output data and data processing, in spreadsheets
- 3 identify the kinds of data that should be protected and/or hidden in a spreadsheet
- 4 describe how the design of the spreadsheet and the accuracy of data input, impact on the output data.

Unit 023

Designing and creating spreadsheets

Outcome 2

Input and test a spreadsheet

Practical activities

The candidate will be able to:

- 1 create a spreadsheet according to a given design
 - a enter titles and headings
 - b enter formulas, functions and constant data
 - c format columns, rows and cells appropriately, including conditional format
 - d hide and/or protect cells
- 2 improve and adjust design to facilitate data entry and output including sort
- 3 insert, delete and clear: cells, rows and columns
- 4 move and copy cell data, formulas and formats
- 5 use search and replace to edit data/formulas
- 6 use split/freeze window to retain column- and row-heading visibility
- 7 test a spreadsheet
 - a input test data and compare results with expected outcomes
 - b rectify errors in design or in design implementation
- 8 set a spreadsheet to show formulas and filters.

Underpinning knowledge

Candidates will be able to

- 1 identify the advantages of using freeze panes, screen borders and windows
- 2 describe commonly used cell formats and relate them to typical numeric data used
- 3 define the relational operators equal to (=), greater than (>), less than (<) and not equal to (<>) singly and in combination.

Unit 023

Outcome 3

Designing and creating spreadsheets

Link, import and extract data

Practical activities

The candidate will be able to:

- 1 copy values and formulas from one spreadsheet into another
- 2 create cell references that link spreadsheets
- 3 create new spreadsheets from sections of existing spreadsheets
- 4 import comma delimited files (.csv) containing both spreadsheet structure and data for editing
- 5 save edited Spreadsheets to (with suitable file name, extension and version control)
 - a hard drive
 - b removable/portable media
 - c remote (network) location.

Unit 023

Designing and creating spreadsheets

Outcome 4

Produce graphs and charts

Practical activities

The candidate will be able to:

- 1 select and use chart type to suit data
 - a pie - single data series 100%
 - b bar - grouped/discrete data - especially comparing size
 - c column - grouped/discrete data - especially showing time variation
 - d line - continuous data, trends at equal intervals
 - e XY & scatter - dependent and independent values, unequal intervals and logarithmic scales
- 2 format chart information to suit data
 - a titles and axes labels
 - b axes scales and limits
 - c gridlines, and gridline density
 - d legends and data labels
- 3 format chart presentation by changing
 - a background
 - b line, area, and text attributes
 - c chart size relative to spreadsheet
 - d colours/patterns to suit monochrome/colour output.

Underpinning knowledge

The candidate will be able to:

- 1 identify reasons why different types of chart are suited to different types of data.

Practical activities

The candidate will be able to:

- 1 print out spreadsheets to requirements eg
 - a monochrome/colour printing facilities
 - b selected areas or whole sheet
 - c as single charts
 - d using borders
 - e with/without headers and footers
 - f fit to one page
 - g with/without repeated table headings
 - h including/excluding graphics
 - i values/formulas
- 2 export data or graphic to another spreadsheet file
- 3 save as delimited text file (.csv).

Underpinning knowledge

The candidate will be able to:

- 1 identify the differences between copying data values, linking data values and pasting data objects.

Unit record sheet

Use this form to track your progress through this unit.

Tick the boxes when you have covered each outcome. When they are all ticked, you are ready to be assessed.

Outcome	✓	Date
1 Design a spreadsheet to meet a given specification	<input type="checkbox"/>	
2 Input and test a spreadsheet	<input type="checkbox"/>	
3 Link, import and extract data	<input type="checkbox"/>	
4 Produce graphs and charts	<input type="checkbox"/>	
5 Export and print spreadsheets	<input type="checkbox"/>	

Candidate Name **Date**

Candidate Signature **Date**

**City & Guilds
Registration Number**

Assessor Signature **Date**

Centre Name **Centre Number**

Published by City & Guilds

1 Giltspur Street

London

EC1A 9DD

T +44 (0)20 7294 2468

F +44 (0)20 7294 2400

www.cityandguilds.com

www.cityandguilds.com/e-quals07

**City & Guilds is a registered charity
established to promote education and
training**