e-Quals Unit Syllabus

Level 3 Designing and producing spreadsheets to analyse information

7266 - 043

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Unit 043 Designing and producing spreadsheets to analyse information

Syllabus Overview

Rationale

The aim of this unit is to provide candidates with an advanced level of skills and knowledge to competently prepare for; perform or supervise the performance of others in a variety of *spreadsheet related tasks* using Information and Communication Technologies (ICT). Candidates will develop a more in depth understanding of the spreadsheet application and the operating system in everyday usage and the ability to work in a supervisory role performing advanced tasks with a high degree of competence, using 'problem solving' skills and giving direction to others.

Learning outcomes

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

- Analyse user requirements and design multi-page spreadsheets to meet them
- Input, test and document spreadsheets
- Use standard tools in problem solving
- import, parse and process data supplied in text files
- Use the range of functions provided in spreadsheets
- Embed macros in spreadsheets

Guided learning hours

It is recommended that 90 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 3

Outcome	Unit	
1, 2, 3, 4	301	Make selective use of IT 3
4, 6	302	Operate a computer 3
1, 2, 7	308	Word processing software 3
1, 2, 3, 4, 5, 6, 7, 8, 9	309	Spreadsheet software 3
7	310	Datbase software 3
1, 2	311	Website software 3
1	312	Artwork And imaging software 3
1, 2	313	Presentation software 3
1, 2,3,4	314	Specialist or bespoke software 3
1	315	Evaluate the impact of IT

Key Skills

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

Application of number	N 3.2, N 3.3
Communication	C 2.2, C 3.3
IT	IT 3.2, IT 3.3
Working with others	
Problem solving	PS 2.1, PS 2.2, PS 2.3
Improving own learning	

Assessment and grading

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

Unit 043 Designing and producing spreadsheets to analyse information

Outcome 1 Analyse user requirements and design multi-page spreadsheets to meet them

Practical activities

The candidate will be able to:

1 Produce specifications for a multi-page spreadsheets from user descriptions by:
- a analysing data for input into a spreadsheet
  - i input, process and output
  - ii types, formats and accuracy
- b identifying extra information/labelling required
  - i labels on screen to aid data input
  - ii labels on printouts to clarify data output
- c planning a spreadsheet structure to meet the specification
  - i data input areas, with validation
  - ii data output area layout
  - iii hidden and/or protected cells
  - iv functions and formulas
  - v graphical charts/graphs, positioning and sizes
- d choosing suitable presentation for data
- e constructing suitable formulas for calculated cells
- f defining the printout required for a given application

2 create test data to include representative, marginal, rogue and extreme values

3 calculate expected values from test data.

Underpinning knowledge

The candidate will be able to:

1 explain the purpose of validation for input data

2 explain the causes of calculation error in a spreadsheet.

Unit 043 Designing and producing spreadsheets to analyse information

Outcome 2 Input, test and document spreadsheets

Practical activities

The candidate will be able to:

1 input multi-page spreadsheets according to a given design and linking across/between various sheets

2 improve and adjust designs to facilitate data input and output

3 manipulate worksheets to improve ease of use eg rename, move, copy, delete

4 test spreadsheets and correct designs or implementation errors

5 create data entry forms to facilitate data input

6 annotate copies of spreadsheets with comments, explanatory graphics & text

7 set and print spreadsheets to show formulas

8 produce user documentation for spreadsheets explaining the spreadsheet's purpose, how it is to be used, and the action to be taken on errors.

Underpinning knowledge

The candidate will be able to:

1 Use open, close, save, save as, print preview and print functions

2 Identify and manage directory/folders locally and remotely

3 Identify how to combine information including hyperlinks, object linking, embedding

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Outcome 3 Use standard tools in problem solving

Practical activities

The candidate will be able to:

1 solve problems with implicit variables eg breakeven points, maxima and minima using available tools (goal-seeker, what IF, solver)

2 use sort facilities to reorder data

3 use grouping facilities to focus on summarising formulas.

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Outcome 4 import, parse and process data supplied in text files

Practical activities

The candidate will be able to:

1 import delimited text data into spreadsheets

2 parse delimited text data into columns of numbers and labels

3 parse structured text data into columns of numbers and labels

4 export data in different text formats.

Underpinning knowledge

The candidate will be able to:

1 identify the format of data supplied from other users as text (structured, separated values, separator/delimiter).

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Outcome 5 Use the range of functions provided in spreadsheets

Practical activities

The candidate will be able to:

1 use named cells and ranges in functions

2 use mathematical functions, eg PI(), RAND, INT, ROUND, SUM

3 use statistical functions, eg COUNT, AVERAGE, STDEV, VARIANCE, MEDIAN, MODE, PERCENTILE,

4 use financial functions, eg FV, PV, IRR, INTRATE

5 use date and time functions, eg NOW, TODAY, DAY, MONTH, YEAR

6 use look-up functions, eg LOOKUP, VLOOKUP, HLOOKUP, INDEX

7 use logical functions, eg AND, OR, NOT, IF and compounded IF eg IF(AND), IF(OR)

8 use text functions, eg CONCATENATE, LEN, MID, LEFT, RIGHT, TRIM

9 use error functions.

Underpinning knowledge

The candidate will be able to:

1 identify the spreadsheet function most suited to a requirement

2 identify the nature of arguments used in functions.

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Outcome 6 Embed macros in spreadsheets

Practical activities

The candidate will be able to:

1 record macros eg select print areas and then print them

2 assign macro's to a keystroke combinations

3 assign macro's to a labelled button or other automating item on a sheet

4 run macros eg to produce hardcopy

5 print macros

6 describe macro usage in user documentation.

Underpinning knowledge

The candidate will be able to:

1 identify legitimate key combinations to activate macros

2 describe the potential danger of a macro virus.

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	**Analyse user requirements and design multi-page spreadsheets to meet them**	☐	
2	**Input, test and document spreadsheets**	☐	
3	**Use standard tools in problem solving**	☐	
4	**import, parse and process data supplied in text files**	☐	
5	**Use the range of functions provided in spreadsheets**	☐	
6	**Embed macros in spreadsheets**	☐	

Candidate Signature ..... **Date** .....

City & Guilds Registration Number .....

Quality nominee (if sampled) ..... **Date** .....

Assessor Signature ..... **Date** .....

External Verifier Signature (if sampled) ..... **Date** .....

Centre Name ..... **Centre Number** .....

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