

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

**Cambridge International Diploma in ICT
Standard Level**

Scheme of Work

5192
Data Analysis
Optional Module



UNIVERSITY *of* CAMBRIDGE
International Examinations

Introduction

This Optional Module is about using a spreadsheet to create and test a data model, extracting and summarising data.

What is assessed in this Module?

- creating a model layout
- entering text
- entering numeric data
- entering formulae
- using functions
- selecting subsets of data (AND and OR)
- adjusting numeric data format and cell sizes
- saving model layout and formulae
- printing the data model displaying formulae
- printing the test model displaying values
- printing extracts

Tutor preparation required to Deliver this Module

You will need:

- documentation showing the amendments the students have to make
- source documents from which the students will extract data

These files and documents could cover, say, the costs involved in car hire from more than one local car hire company. This could include the model type, the cost per day, the cost per week, insurance and any other costs.

During the first session you can also assign the students to investigate and prepare work on either their own, or another local, company outlining the number of personnel, product(s) or service(s) offered, price list, etc, for the next session.

Underpinning knowledge

- opening and exiting the operating system and programs
- relationship between a workbook and sheets
- basic spreadsheet functions (entering text and numeric data, creating simple formulae)
- loading stored data
- control of formatting (integer, decimal places, column width and alignment)
- labelling, listing the contents of, and storing disks
- working with storage media

General Principles and Procedures

As part of this session, time should be allocated to the following items:

- moving, renaming, copying and sorting files
- using keyboard combinations
- switching between windows
- working with more than one window

Scheme of Work

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan One				
<ul style="list-style-type: none"> to organise the layout of a worksheet create a model 	1.1.1 1.1.3	<ul style="list-style-type: none"> discuss the structure of formulae, naming cells and ranges, absolute reference and relative reference discuss the layout of a worksheet with assigned areas for relative and absolute referencing to plan layout of a worksheet with areas assigned for relative and absolute referencing enter the layout and formulae in a computer model to perform simple calculations using the same information restructure the model using named cells/ranges, relative references and absolute references discuss the advantages and disadvantages of restructuring the model using named cells/ranges, relative references and absolute references 	<ul style="list-style-type: none"> variety of sample demonstration sheets to view in terms of the layout and structure various instruction sheets and handouts demonstration 	

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan Two				
<ul style="list-style-type: none"> • to test a model • to correctly use formulae 	1.1.2 1.2.1 1.1.1 1.1.3	<ul style="list-style-type: none"> • discuss the need for 100% accuracy in data entry • discuss the need for careful choice of test data • discuss the use of test data, calculating and recording the expected output and mapping this against the actual output. • choose test data and use this to test the models developed in session plan one • using one modelling structure from activities 2 and 3 develop concepts of modelling using referencing, cut/copy and paste, drag and drop and fill to create different model structures. 	<ul style="list-style-type: none"> • various instruction sheets and handouts • demonstration 	

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan Three				
<ul style="list-style-type: none"> to correctly use functions extract subsets of data 	1.1.4 3.1.1 2.1.1	<ul style="list-style-type: none"> creating totals (including row and column totals) using sum develop the use of statistical functions including average, maximum and minimum develop the use of mathematical functions to create integer values, rounding numbers and counting discuss the difference between using mathematical functions and cell formatting for this purpose and the potential for generating errors develop skills relating to relational operators select subsets of data from calculated lists using And, or, not <, >, =, and string matching. 	<ul style="list-style-type: none"> various instruction sheets and handouts demonstration 	<ul style="list-style-type: none"> counting should include the use of both numbers and strings it is worth a practice exercise like: <ul style="list-style-type: none"> set A1 to 4.9, set A2 to 2 in A3 = ROUND(A1/A2, 0) in A4 = A1/A2 format A4 to integer value in B3 = A3*10 in B4 = A4 *10 discuss the resulting differences between the contents of B3 and B4 for relational operators focus teaching on IF and LOOKUP functions (lookup may be vertical or horizontal)

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan Four				
<ul style="list-style-type: none"> edit display features 	3.2.1 3.3.1 4.1.1	<ul style="list-style-type: none"> adjusting cells/rows/columns/ whole sheet to automatically fit. Re-adjust after changing to formulae view if necessary landscape and portrait printing, print areas and fit to page 	<ul style="list-style-type: none"> sample spreadsheet exercises used for changing display settings various instruction sheets and handouts demonstration 	
Session Plan Five				
<ul style="list-style-type: none"> all 	All	<ul style="list-style-type: none"> practice test 		
Session Plan Six				
		<ul style="list-style-type: none"> practice test debrief: discussion of tasks and answers 	<ul style="list-style-type: none"> marked printouts for each student prepared model answers for each task 	<ul style="list-style-type: none"> review Special arrangements and procedures for test
Session Plan Seven				
<ul style="list-style-type: none"> undertake Data Analysis Assessment 	All	<ul style="list-style-type: none"> Data Analysis Assessment 		