

Develop and use complex spreadsheets (Excel 2013)

This workbook supports BSBITU402A Develop and use complex spreadsheets in the BSB07 Business Services Training Package.

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Software Publications writing team

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BSBITU402A Develop and use complex spreadsheets

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to use spreadsheet software to complete business tasks and to produce complex documents.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of unit This unit applies to individuals employed in a range of work environments who require skills in the creation of complex spreadsheets to store and retrieve data. They may work as individuals providing administrative support within an enterprise, or may be independently responsible for designing and working with spreadsheets relevant to their own work roles.

Employability skills This unit contains employability skills.

Prerequisites There are no prerequisites for this unit.

Element	Performance Criteria	Page Reference
1	Prepare to develop spreadsheet	
1.1	Organise personal work environment in accordance with ergonomic requirements	Software Publications WHS (included in exercise file download)
1.2	Analyse task and determine specifications for spreadsheets	xix–xxxii
1.3	Identify organisational and task requirements in relation to data entry, storage, output, reporting and presentation requirements	xix–xxvii
1.4	Apply work organisation strategies and energy and resource conservation techniques to plan work activities	Software Publications WHS (included in exercise file download)
2	Develop a linked spreadsheet solution	
2.1	Utilise spreadsheet design software functions and formulae to meet identified requirements	Throughout workbook
2.2	Link spreadsheets in accordance with software procedures	94–101
2.3	Format cells and use data attributes assigned with relative and/or absolute cell references, in accordance with the task specifications	Throughout workbook
2.4	Test formulae to confirm output meets task requirements	34–42
3	Automate and standardise spreadsheet operation	
3.1	Evaluate tasks to identify those where automation would increase efficiency	155–166, 170–182
3.2	Create, use and edit macros to fulfil the requirements of the task and automate spreadsheet operation	153–166
3.3	Develop, edit and use templates to ensure consistency of design and layout for forms and reports, in accordance with organisational requirements	170–182

Element	Performance Criteria	Page Reference
4	Use spreadsheets	
4.1	Enter, check and amend data in accordance with organisational and task requirements	Throughout workbook
4.2	Import and export data between compatible spreadsheets and adjust host documents, in accordance with software and system procedures	183–188
4.3	Use manuals, user documentation and online help to overcome problems with spreadsheet design and production	xvi, xxvi, 45–47
4.4	Preview, adjust and print spreadsheet in accordance with organisational and task requirements	Throughout workbook
4.5	Name and store spreadsheet in accordance with organisational requirements and exit the application without data loss or damage	Throughout workbook
5	Represent numerical data in graphic form	
5.1	Determine style of graph to meet specified requirements and manipulate spreadsheet data if necessary to suit graph requirements	54–76
5.2	Create graphs with labels and titles from numerical data contained in a spreadsheet file	
5.3	Save, view and print graph within designated time lines	

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to interpret and evaluate the purposes and uses of various features of spreadsheets and to use a variety of strategies for planning and reviewing own work
- proofreading and editing skills to check for accuracy and consistency of information by consulting additional resources
- numeracy skills to collate and present data, graphs and related references.

Required knowledge

- advanced functions of spreadsheet software applications
- impact of formatting and design on the presentation and readability of data
- key provisions of relevant legislation from all forms of government, standards and codes that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety
 - organisational policies and procedures

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Variable	Scope	Page References
Ergonomic requirements may include:	avoiding radiation from computer screens	Software Publications WHS
	chair height, seat and back adjustment	
	document holder	
	footrest	
	keyboard and mouse position	
	lighting	
	noise minimisation	
	posture	
	screen position	
	workstation height and layout	
Work organisation strategies may include:	exercise breaks	
	mix of repetitive and other activities	
	rest periods	
Energy and resource conservation techniques may include:	double-sided paper use	
	recycling used and shredded paper	
	re-using paper for rough drafts (observing confidentiality requirements)	
	using power-save options for equipment	
Spreadsheet design may include:	analysis	xix
	appropriateness	
	avoidance of blank rows and columns	
	embedding cell references in formulae	178
	formulae	Throughout workbook
	formatting and reformatting	Throughout workbook
	functions	104–137
	headers and footers	91
	headings	Throughout workbook
	headings and labels	Throughout workbook
	identification and parameters	Throughout workbook
	import and export of data	183–188
	labels	Throughout workbook
	linked formulae	94–101
	multi-page documents	Throughout workbook
	pivot tables	142
relative and absolute cell references	Throughout workbook	
split screen operation	27	
Functions may include:	basic financial functions (if available)	111–115, 128–135
	date functions	120, 136

Variable	Scope	Page References
	logical functions (lookup, if, choose, true, false, conditions)	104–108, 119, 123–127, 135–136
	mathematical functions (square root, integer, absolute value, round)	123, 125–127, 136
	simple nested functions	27, 116
	statistical functions (standard deviation, count, maximum, minimum)	27, 118, 135
Formulae may include:	addition	Throughout workbook
	average	
	comparison	
	division	
	exponentiation	
	multiplication	
	percentage	
	subtraction	
	combinations of above	
Macros may include:	printing sections of a spreadsheet	165–166
Templates may include:	font types and sizes	170–182
	forms	
	headers and footers	
	headings	
	page formats	
	reports	
Importing and exporting data may include:	proofreading	183–188
	reformatting	
	split screen (if available)	
Printing may include:	charts	62
	entire workbooks	Throughout workbook
	selected data within a worksheet	126
	worksheets	Throughout workbook
Naming and storing spreadsheets may include:	authorised access	xiii, 166–168
	file naming conventions	x
	filing locations	vii
	organisational policy for backing up files	xii
	organisational policy for filing hard copies of spreadsheets	xv
	security	xiii, 166–168
	storage in folders and sub-folders	vi–ix
	storage on disk drives, CD-ROM, USB, tape back-up, server	vi–ix, xii
Graphs may include:	bar	54–76
	line	
	pie	
	scatter	
	stack	
	3D	

Variable	Scope	Page References
Creating graphs may include:	data range	54–76
	keys and legends	
	labels and titles	
	naming	
	sizing (if possible)	
	using graph menu	
	X and Y axis	

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: <ul style="list-style-type: none">• developing complex spreadsheets• developing graphical representations of data contained in spreadsheets.
Context of and specific resources for assessment	Assessment must ensure: <ul style="list-style-type: none">• access to office equipment and software• access to samples of data for inclusion in spreadsheets.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: <ul style="list-style-type: none">• direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate• review of authenticated documents from the workplace or training environment• demonstration of techniques.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none">• administration units• other information and communications technology units.

Employability Skills Mapping

Employability Skills for BSB40507: Certificate IV in Business Administration

Employability Skill	Industry/enterprise requirements for this qualification include	How this Employability Skill is covered
Communication	<ul style="list-style-type: none"> communicating with colleagues and customers to gather information about their needs and to provide services proofreading and editing 	<p>Page xvii describes communication as it relates to spreadsheets</p> <p>Proofreading and editing of documents is addressed throughout the book</p>
Teamwork	<ul style="list-style-type: none"> agreeing on the purpose and structure of documents, spreadsheets and databases with colleagues and clients 	<p>Page xvii describes the concept of quality and teamwork</p>
Problem solving	<ul style="list-style-type: none"> analysing document requirements and using online help, manuals and user documentation 	<p>Page xiii describes the use of manuals</p> <p>Pages 45-47 describe the use of help</p>
Initiative and enterprise	<ul style="list-style-type: none"> designing complex documents, databases and spreadsheets evaluating tasks to improve efficiency suggesting improvements to the structure and design of existing systems 	<p>Complex document design is described throughout the book</p> <p>Software Publications WHS contains notes on efficiency and systems improvement <i>(included in exercise file download)</i></p>
Planning and organising	<ul style="list-style-type: none"> organising resources, equipment and time lines organising work schedules and meetings 	<p>Page ix describes organising and prioritising</p>
Self-management	<ul style="list-style-type: none"> managing time and ensuring ergonomic requirements are met planning and reviewing own work 	<p>Page ix describes managing time</p> <p>Software Publications WHS contains notes on ergonomic requirements <i>(included in exercise file download)</i></p> <p>Pages xvii-xxi describe planning and design</p>
Technology	<ul style="list-style-type: none"> using business technology such as computers, word processing programs and printers 	<p>The whole book requires the learner to operate a PC running Windows 8.1 and the Microsoft Excel 2013 application</p>

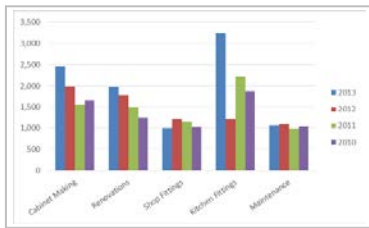
Charts

Worksheet data can be illustrated using charts that are automatically linked to the worksheet. Alterations made to worksheet data will redraw the chart accordingly.

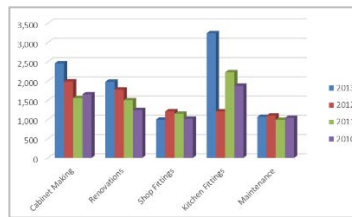
Charts are used to:

- Illustrate trends, comparisons and relationships
- Emphasise the values of individual items
- Study the differences between large amounts of data
- Present data in an effective way.

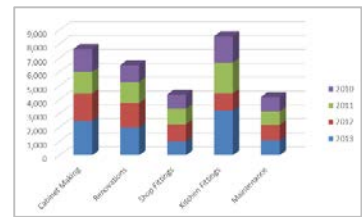
Types of Charts



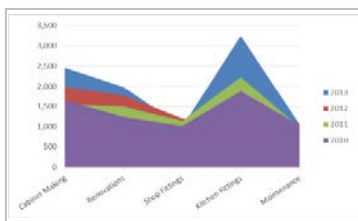
Clustered Column



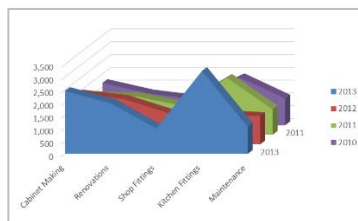
3-D Clustered Column



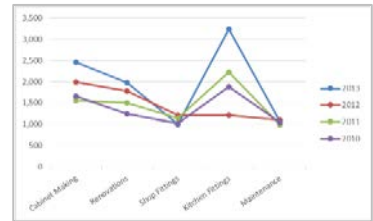
3-D Stacked Column



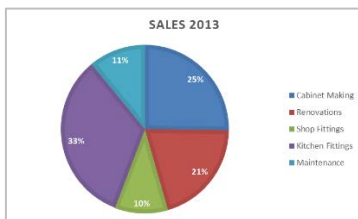
Stacked Area



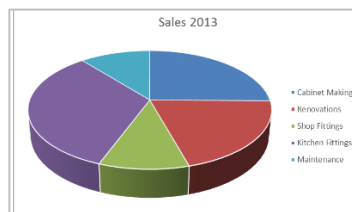
3-D Area



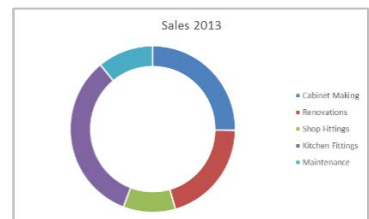
Line with Markers



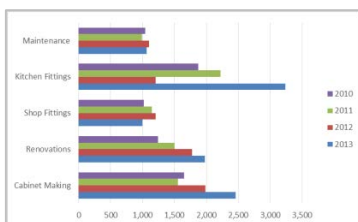
Pie



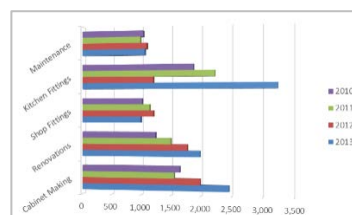
Pie in 3-D



Doughnut



Clustered Bar



3-D Clustered Bar



Combo

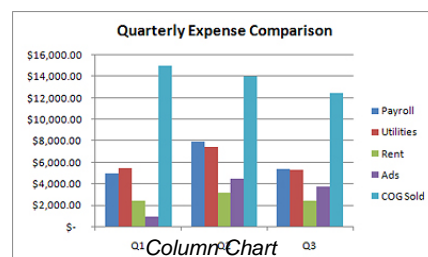
Which Chart Do I Use?

Before starting to create a chart you need to analyse what you want the chart to show, e.g. the gradual increase/decrease of sales, which branch is doing well out of the four branches, comparison of last year's sales with this year's sales so far or the level of student grades. Excel 2013 now makes this decision easier when you use Recommended Charts. You can scroll through the list of suggested charts and select the chart that best suits you or choose from the full range of charts.

The most commonly-used charts are described below.

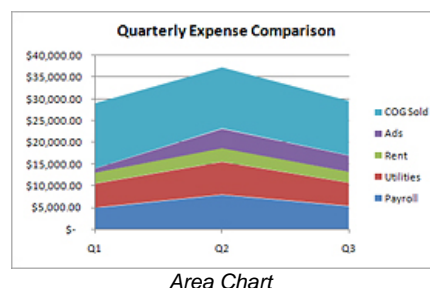
Column/Bar Chart

A column or bar chart displays data that is arranged in columns and rows on a worksheet. A column chart displays categories along the horizontal (category) axis and values along the vertical (value) axis. This type of chart is one of most commonly used charts.



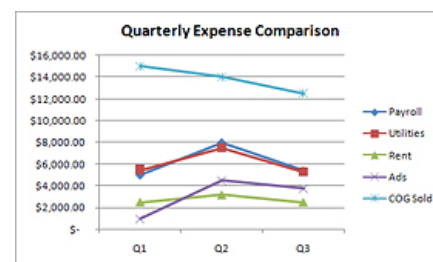
Area Chart

An area chart displays data that is arranged in columns and rows in a worksheet. Area charts display data relating to numbers or percentages over a period of time and shows the relationship of parts to a whole.



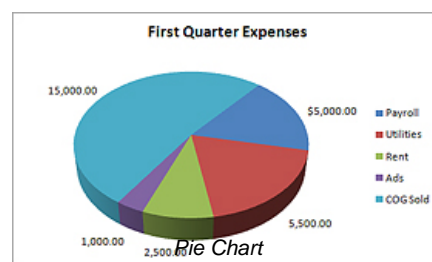
Line Chart

Used to display trends and comparisons between different groups of data over a period of time. It is also used for showing large amounts of data.



Pie Chart

A pie chart displays data that is arranged in one column or row on a worksheet. Data is displayed in proportion to the total amount of data. This type of chart allows a user to compare one portion of data against an entire group.



Charts Group

The Charts Group on the Insert Ribbon is used to create charts.

In traditional two-dimensional charts, the primary horizontal axis is used to reflect categories and the primary vertical axis to reflect values. A feature of Excel is three-dimensional charts; a number of which will be used throughout this section. In a three-dimensional chart, a third axis, known as the depth axis, is used which replaces the legend.

Chart Worksheets

Charts can be embedded into your current worksheet or added as a new worksheet to a workbook file. Chart worksheets are displayed full screen and when printed do not include worksheet data.

Chart Data

	A	B	C	D	E
1	Income Statement 2013				
2	Goodwind's Sports Supply				
3					
4		Q1	Q2	Q3	Total
5					
6	Net Sales	30,000	38,000	32,000	100,000
7					
8	Operating Expenses				
9	Payroll	5,000	8,000	5,400	18,400
10	Utilities	5,500	7,500	5,300	18,300
11	Rent	2,500	3,200	2,500	8,200
12	Advertising	1,000	4,500	3,800	9,300
13	COG Sold	15,000	14,000	12,500	41,500
14					
15	Total Operating Expenses	29,000	37,200	29,500	95,700
16					
17	Operating Income	1,000	800	2,500	4,300

Legend displayed

Primary Horizontal Axis Labels displayed

Data to be graphed

Chart

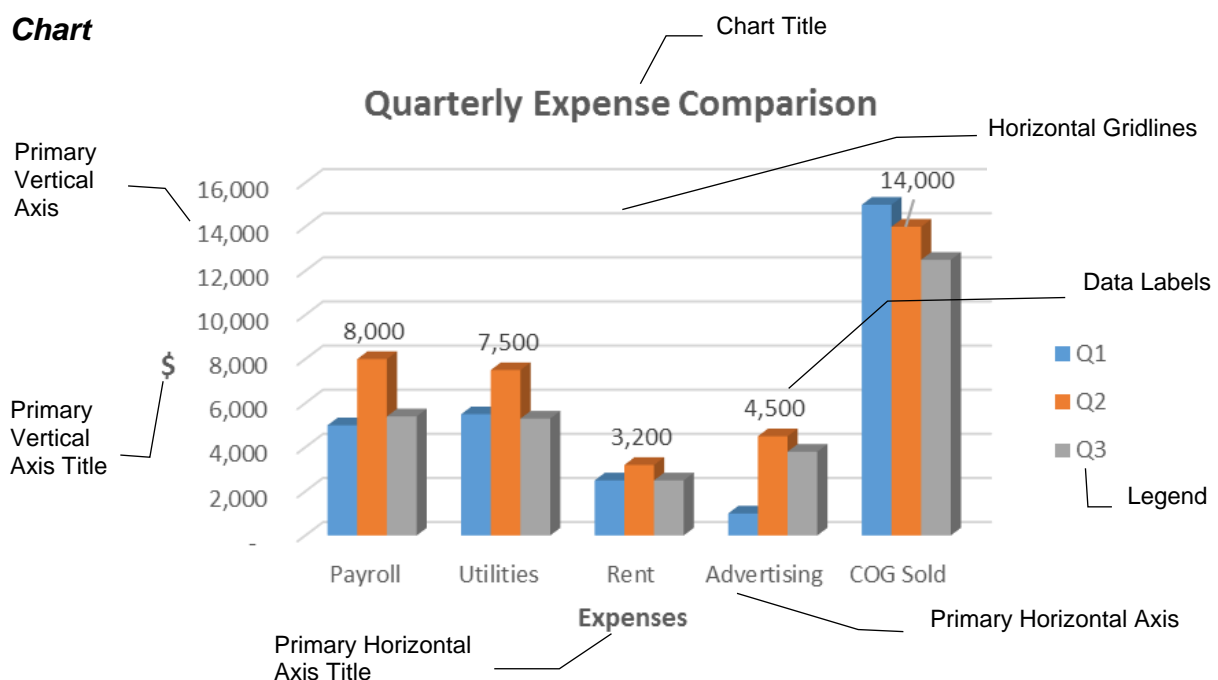


Chart Title

Horizontal Gridlines

Primary Vertical Axis

Primary Vertical Axis Title

Data Labels

Legend

Primary Horizontal Axis Title

Primary Horizontal Axis

Column Charts

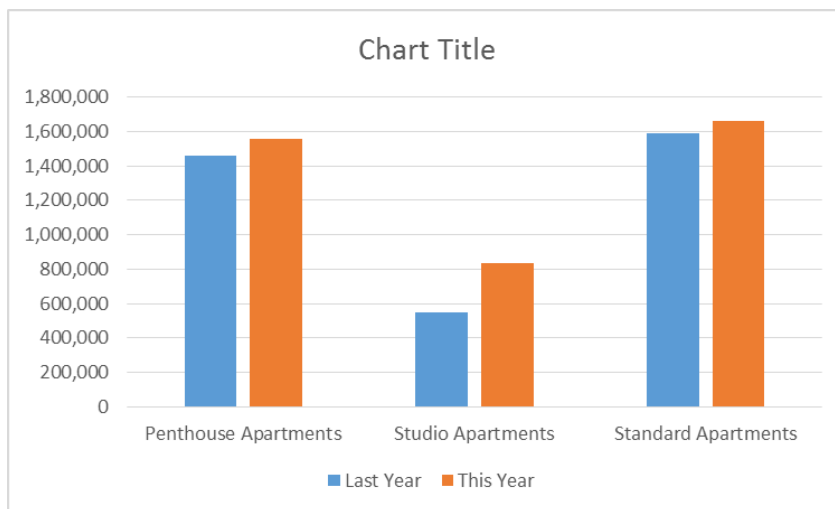
Exercise 43

- 1 Open the workbook called **Fiji Landing Apartments**.
- 2 Select cells A5 to C8.



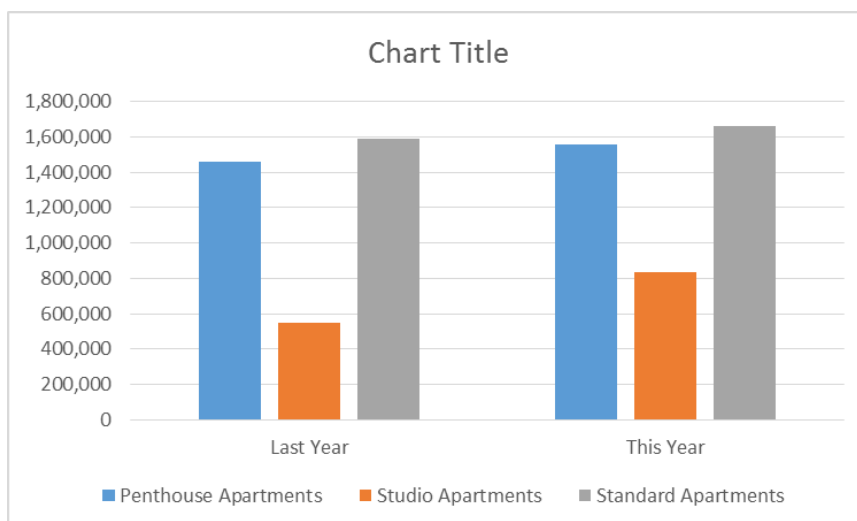
- 3 On the Insert Ribbon click on **Charts** in the Charts group. Click on each of the recommended charts to see how the data will be displayed.
- 4 Select the fourth option, a clustered column chart. Click OK.

The chart will display on the worksheet as an embedded object.



Switch Row/
Column to

- 5 On the Chart Tools Design Ribbon click on the Switch Row/Column button to view the chart by rows.




Switch Row/
Column

- 6 Click on the Switch Row/Column button again to view the chart by columns.
- 7 Save the workbook and leave it open for the next exercise.

Chart Elements

When a chart is selected, three buttons display at the right of the chart whether the chart is embedded in the worksheet or is a new worksheet.

The top button is Chart Elements . When you click on the button a list of chart elements will display allowing you to add, remove or change chart elements such as the title, legend, gridlines and data labels. Clicking on the arrow at the right of the element will display further options. Different chart types have different elements.

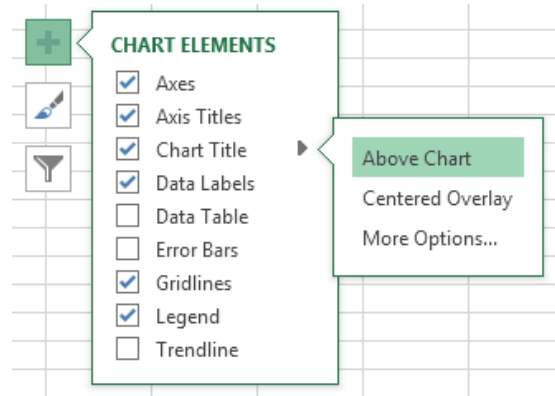



Chart Styles

The second button to the right of the chart is Chart Styles . This allows a style and colour scheme to be applied to the chart. The Style tab displays a variety of styles for your chosen chart type. The Color tab allows you to change the colours in your chart.

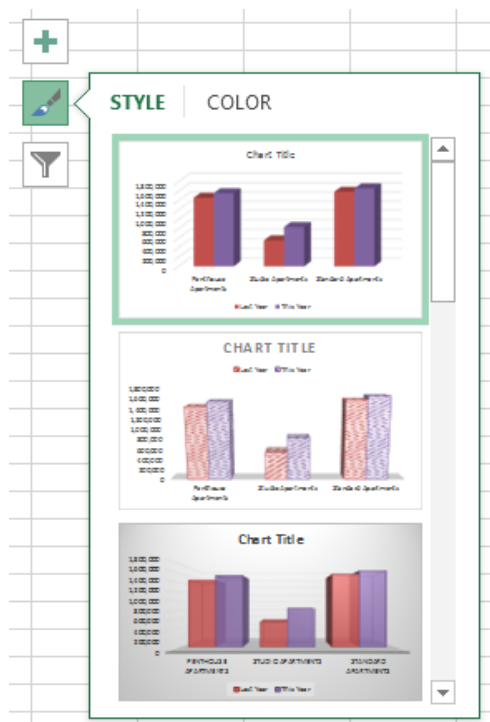



Chart Filters

The third button to the right of the chart is Chart Filters . This allows you to edit which data points and names are visible on your chart. If you want to remove one of the series or categories, deselect and then click on the Apply button.

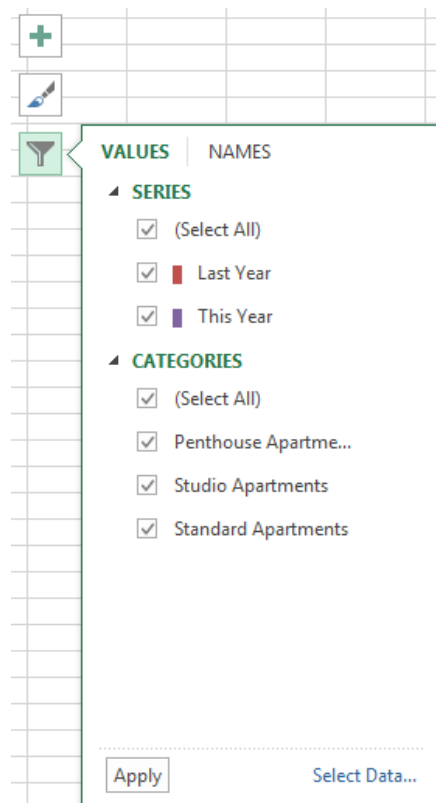


Chart Tools Design Tab

As well as using the three buttons attached to the chart, the Chart Tools Design Tab provides options for adjusting a chart.



Click on the drop-down arrow on the Add Chart Element button. A list of chart elements will appear with arrows to further menu items where a selection can be made.



Click on the drop-down arrow on the Change Colors button. A list of chart colour schemes will display; click to apply a different colour scheme.

The Chart Styles group provides a number of pre-formatted chart styles.

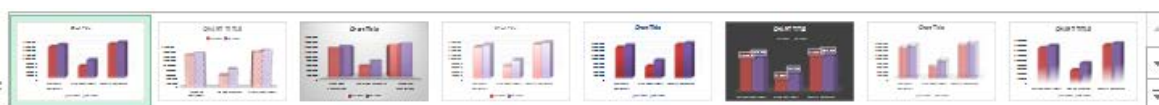


Chart Styles



The Switch Row/Column button switches data being charted on the horizontal axis with that being charted on the vertical axis.



Shows the original selection of data on the worksheet. To change the range, click and drag over required data.




Once a chart has been created, it is possible to change the Chart Type.



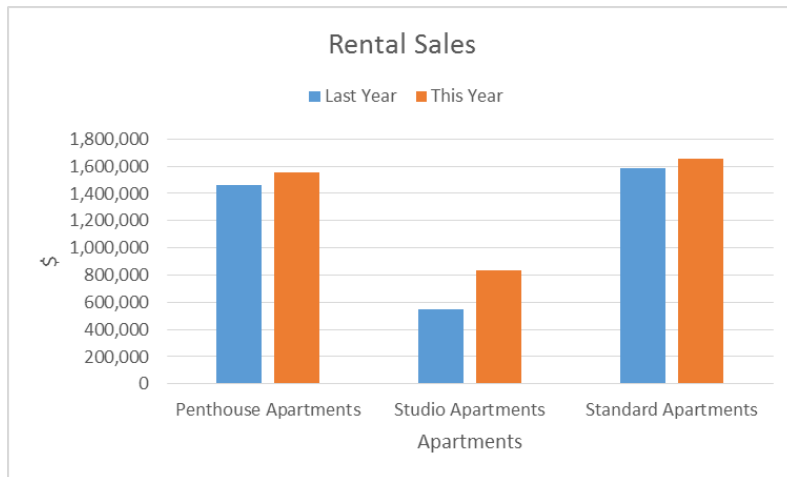
When a chart is created, it is embedded in your worksheet. The chart can be moved to a new sheet where the chart will display on its own.

Chart and Axis Titles, Legend and Chart Location


Exercise 44

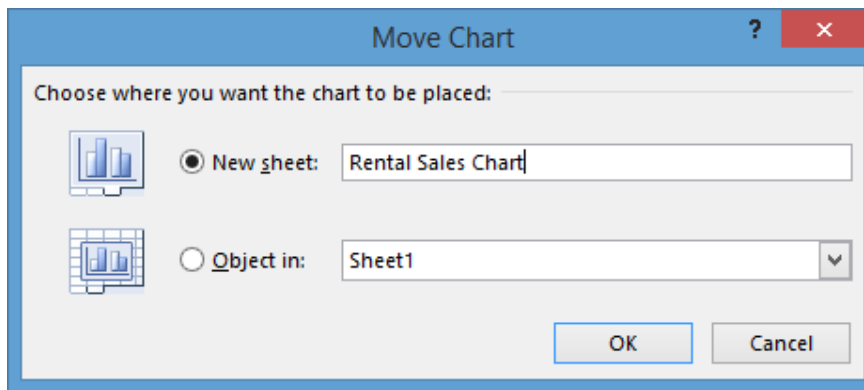
- 1 Using the workbook **Fiji Landing Apartments** click on the Chart Title placeholder and type: **Rental Sales**. Press Enter. (Note that the title is entered into the Formula bar, and when Enter is pressed, the chart is updated.)
- 2 Click on  and select Axis Titles. Placeholders appear for both the horizontal and vertical axes.
- 3 Click to select the vertical axis title and type: **\$**. Press Enter.
- 4 Click to select the horizontal axis title and type: **Apartments**. Press Enter.

- 5 Click on  and select Legend. Click on the  and select Top.



Move Chart


- 6 On the Chart Tools Design Ribbon click on the Move Chart button .



- 7 Click on the *New sheet*: option to place the chart on a separate worksheet. Name the new worksheet: **Rental Sales Chart**. Click on OK.
- 8 Save the workbook and leave it open for the next exercise.

Formatting the Chart and Axis Titles

Exercise 45

- Using the workbook **Fiji Landing Apartments**, right click on the Chart Title and select  **Font...** from the shortcut menu.
- Increase the font size to 16 pt and apply bold. Change the colour of the font to dark green.
- Format both Axis Titles to bold, italic and dark green.
- Save the workbook and leave it open for the next exercise.

Changing the Chart Type

Exercise 46

- Using the workbook **Fiji Landing Apartments**, click on the white background of the chart to select it.



Change
Chart Type

- Click on the Change Chart Type button on the Chart Tools Design Ribbon. The Change Chart Type dialog box will display.

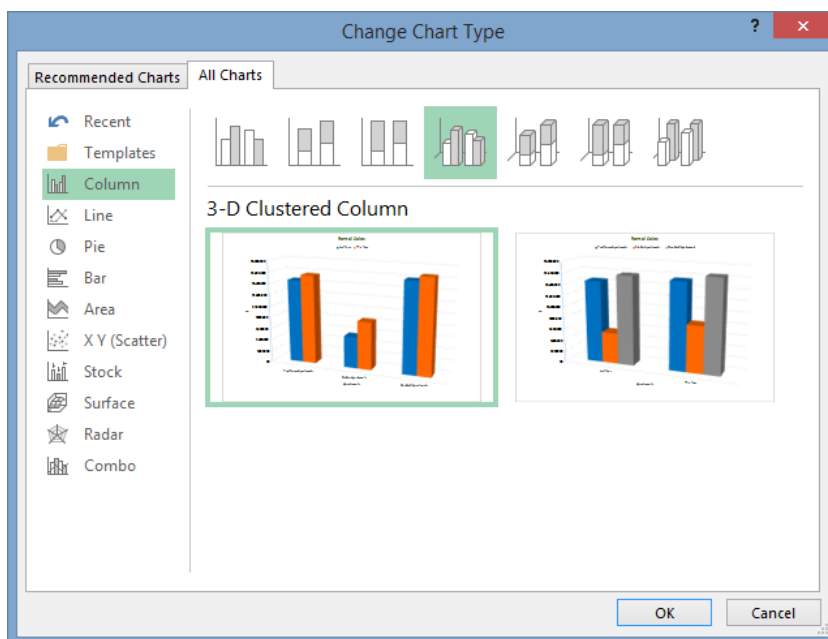


- From the All Charts tab, select Line and then Line with Markers . Two layout options are displayed where the rows and columns are switched. The default chart is on the left. Select the default chart and click on OK. The chart will automatically reformat.



Change
Chart Type

- With the chart still selected, click on
- Select Column and then 3-D Clustered Column . With the chart on the left selected, click on OK.



- Save the workbook and leave it open for the next exercise.

Personal Macro Workbook

A Personal Macro Workbook called **Personal.xlsb** is created when this option is selected from the *Store macro in:* section of the Record New Macro dialog box.



The **Personal.xlsb** file is not displayed but can be edited by choosing Unhide from the View Ribbon (then choose Hide when finished). All macros stored in the Personal Macro Workbook will become 'global'.

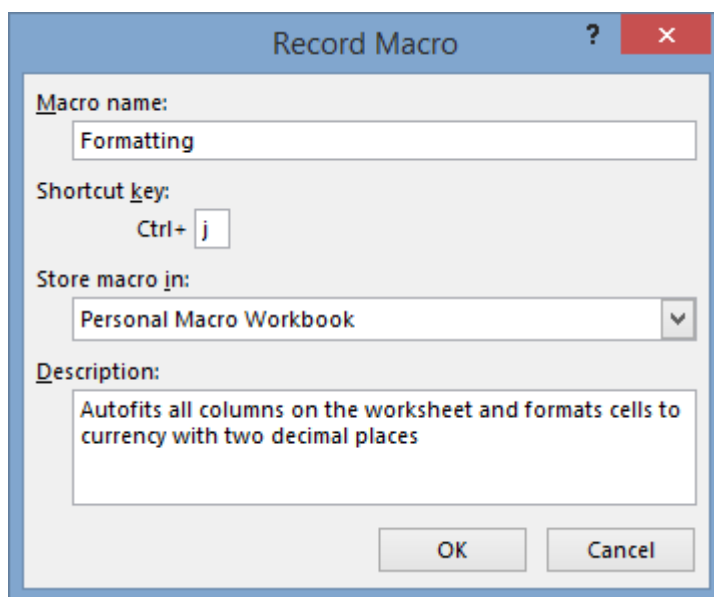
Placing a Macro Button on the Quick Access Toolbar

In the following exercise a macro will be created and placed as a button on the Quick Access Toolbar.

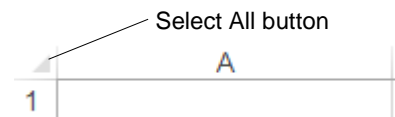
Creating the Macro

Exercise 153



- 1 Open the workbook called **Classic Images Income**.
- 2 On the Developer Ribbon click on  Record Macro
- 3 Type: **Formatting** in the *Macro name:* box.
- 4 Click on the *Store macro in:*  and select Personal Macro Workbook.
- 5 Type: **j** in the *Shortcut key: Ctrl+* box and type the description shown below.



- 6 Click on OK.
- 7 Record the macro as follows.
 - a Click on the Select All button at the top left corner of the worksheet.




Format

- b On the Home tab click on  in the Cells group and select  **Format Cells...** . On the Number tab choose the category Currency with two decimal places and \$ signs. Click on OK.



Format

- c Click on  and select **AutoFit Column Width**.
- d Press Ctrl Home.

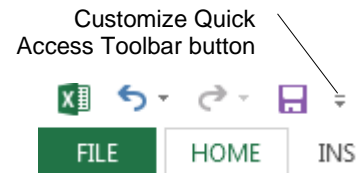
8 Click on the Stop Recording button .


9 Save the workbook as an Excel Macro-Enabled Workbook named **Classic Images Income** and leave it open for the next exercise

Placing the Macro Button

Exercise 154

1 Using the workbook **Classic Images Income**, click on the Customize Quick Access Toolbar button (as shown at the right) and select **More Commands...**.



2 Click on the  of the **Choose commands from:** box and select **Macros**.

3 Select **PERSONAL.XLSB!Formatting** and click on **Add >>**.

4 Click on **Modify...** and in the *Display name:* box type: **Formatting**.

5 Click on OK twice. The button will now display in the Quick Access Toolbar as shown below.



6 Save and close the workbook.

Testing the Macro

Exercise 155

1 Open the workbook called **Flowers**.

2 Click on the Formatting button  on the Quick Access Toolbar.

Column widths will adjust and currency formats will be added.

3 Save the workbook and leave it open for the next exercise

Note

If a heading spans across the worksheet from column A, then column A will be adjusted to accommodate all the text in that column.

Editing the Personal Macro Workbook


The Personal Macro Workbook is available to all workbooks now and can be edited at any time through the View Ribbon.

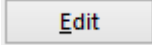
Exercise 156

1 Using the workbook **Flowers**, show the View Ribbon and click on **Unhide** in the Window Group.

2 With PERSONAL selected from the *Unhide workbook:* box, click on OK.




3 On the Developer Ribbon, click on the View Macros button  .


4 Select the Formatting macro and click on  . Edit the macro by removing the \$ sign from the NumberFormat section as shown below.

```
Sub Formatting()
'
' Formatting Macro
' Autofits all columns on the worksheet and formats cells to currency with two decimal places
'
' Keyboard Shortcut: Ctrl+j
'
Cells.Select
Selection.NumberFormat = "$#0##0.00"
Selection.Columns.AutoFit
Range("A1").Select
End Sub
```

Delete the \$

5 Click on the Save button  to save the Personal Macro Workbook.

6 Choose [File] Close and Return to Microsoft Excel.

7 Display the View Ribbon and click on  to return to the worksheet.

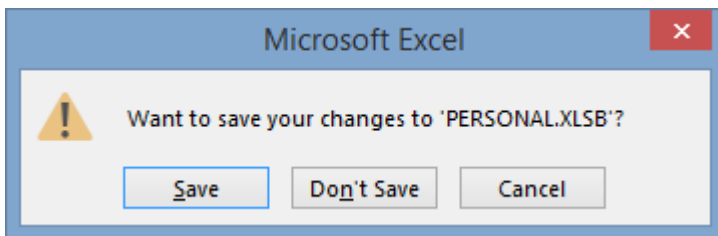
8 Run the macro again and the \$ signs will be removed.

9 Save the workbook and close.

Note

The above macro is designed to change an entire worksheet. Sometimes it is more effective to record the macro *after* the range has been selected. The macro will then run on any selection.

10 Exit Excel. A message similar to the following will display:



11 To save the macro for future use, click on  .

Note

As the **Formatting** macro was saved in the Personal Macro Workbook, it will be available to use in any workbook.

Removing a Quick Access Toolbar Button

A menu item that has been added to a menu can be removed as follows.

Exercise 157

1 Click on the Customize Quick Access Toolbar button  and select More Commands... .

2 Select  from the right hand box and click on  .

3 Click on OK.

New Workbook

A new macro workbook, other than the Personal Macro Workbook, can also be used to store macros. The New Workbook option is normally used for more specific macros, such as complex formula macros.

When the New Workbook option is selected, and the macro instructions are recorded, the new workbook will be created automatically and titled Book# (e.g. Book8). The workbook can be



accessed through the View Ribbon Switch Windows button and should be saved with a relevant file name, e.g. Macros Workbook.

Macros that are stored in such workbooks can be used in other workbooks but the macro workbook must be open. If the macro workbook is not open then the macros are not available. When macros are assigned to a menu or a button the New Workbook containing the macro will automatically open (and can be seen on the Switch Windows list).

Macros in Templates

Macros are very effective when saved in templates as they are available when the template is used. Use 'This Workbook' option when storing macros with a template.

Save the template as an **Excel Macro-Enabled Template**.

Deleting a Macro

1 Open the workbook that contains the macro.

2 On the Developer Ribbon click on the View Macros button  **Macros**, then click on the macro name.

3 Click on  and click on Yes to confirm the deletion.

Printing Macro

Exercise 158

1 Open the workbook called **Creative Caps**.

2 Select cells A7 to H13.

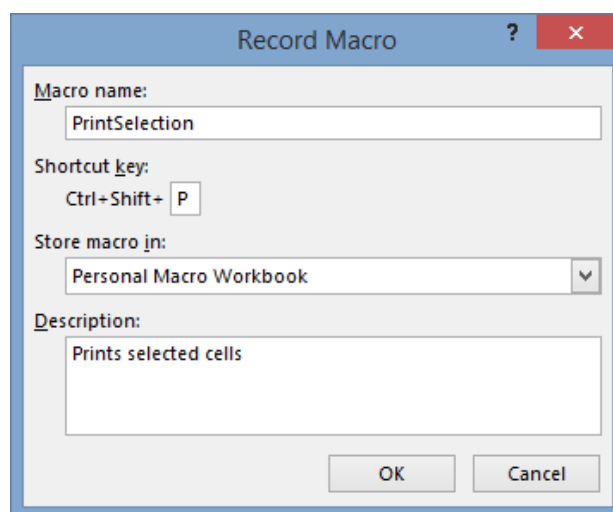
3 On the Developer Ribbon click on  **Record Macro**.



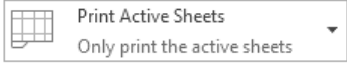
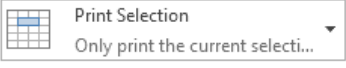


4 Type: **PrintSelection** in the *Macro name:* box.

5 Assign the macro to the shortcut key **Ctrl Shift P** by pressing Shift P in the *Shortcut key:* box.

6 Store the macro in the Personal Macro Workbook.

7 In the *Description:* box type: **Prints selected cells**.



- 8 Click on OK.
- 9 Click on  and click on .
- 10 Under Settings click on  and select .
- 11 Click on .
- 12 Press Ctrl Home.
- 13 Click on the Stop Recording button .
- 14 Save the workbook.
- 15 Select cells A15 to H21 and press **Ctrl Shift P** to print the selection.
- 16 Save and close the workbook.
- 17 Exit Excel. Save changes to **Personal.xlsm**.





Cell Protection

There are two types of protection available within a workbook. Either or both of these options can be used.

- Workbook Protection
- Worksheet Protection

Unlocking Cells

Cells are automatically locked in all worksheets of a workbook. If you wish to have cells 'unprotected' to enter data, then the cells to be made available for data entry must be unlocked **before** the worksheet/workbook is protected.

- a Select the worksheet, on the Home Ribbon click on  , select  **Format Cells...** , then select the Protection tab.
- b Remove the tick from the *Locked* check box and click on OK.
- c Select the cells to be locked, on the Home Ribbon click on  , select  **Format Cells...** , then select the Protection tab.
- d Add a tick to the *Locked* check box and click on OK.

Evidence Guide

Elements and Performance Criteria

The elements and performance criteria are covered during assessment in the following ways.

Element	Performance Criteria	Assessment Tasks
1 Prepare to develop spreadsheet		
1.1	Organise personal work environment in accordance with ergonomic requirements	Part 1
1.2	Analyse task and determine specifications for spreadsheets	Part 2 Part 4
1.3	Identify organisational and task requirements in relation to data entry, storage, output, reporting and presentation requirements	Part 2 Part 4
1.4	Apply work organisation strategies and energy and resource conservation techniques to plan work activities	Part 1
2 Develop a linked spreadsheet solution		
2.1	Utilise spreadsheet design software functions and formulae to meet identified requirements	Part 2 Part 3 Part 4 Part 5 Part 6
2.2	Link spreadsheets in accordance with software procedures	Part 4 Part 5
2.3	Format cells and use data attributes assigned with relative and/or absolute cell references, in accordance with the task specifications	Part 2 Part 4
2.4	Test formulae to confirm output meets task requirements	Part 2 Part 3 Part 6
3 Automate and standardise spreadsheet operation		
3.1	Evaluate tasks to identify those where automation would increase efficiency	Part 2
3.2	Create, use and edit macros to fulfil the requirements of the task and automate spreadsheet operation	Part 2 Part 6
3.3	Develop, edit and use templates to ensure consistency of design and layout for forms and reports, in accordance with organisational requirements	Part 2 Part 3 Part 4 Part 5
4 Use spreadsheets		
4.1	Enter, check and amend data in accordance with organisational and task requirements	Part 3 Part 7
4.2	Import and export data between compatible spreadsheets and adjust host documents, in accordance with software and system procedures	Part 2
4.3	Use manuals, user documentation and online help to overcome problems with spreadsheet design and production	Part 6

Element	Performance Criteria	Assessment Tasks
4.4	Preview, adjust and print spreadsheet in accordance with organisational and task requirements	Part 3 Part 7
4.5	Name and store spreadsheet in accordance with organisational requirements and exit the application without data loss or damage	Part 2 Part 3 Part 4 Part 5 Part 6 Part 7
5 Represent numerical data in graphic form		
5.1	Determine style of graph to meet specified requirements and manipulate spreadsheet data if necessary to suit graph requirements	Part 4
5.2	Create graphs with labels and titles from numerical data contained in a spreadsheet file	Part 4
5.3	Save, view and print graph within designated time lines	Part 7

Required Skills and Knowledge

The skills and knowledge are covered during assessment in the following ways.

Required Skills	How will Evidence be Gathered?
<ul style="list-style-type: none"> literacy skills to interpret and evaluate the purposes and uses of various features of spreadsheets and to use a variety of strategies for planning and reviewing own work 	All assessment tasks
<ul style="list-style-type: none"> proofreading and editing skills to check for accuracy and consistency of information by consulting additional resources 	Part 2, Part 3
<ul style="list-style-type: none"> numeracy skills to collate and present data, graphs and related references 	Part 2, Part 3, Part 4, Part 5, Part 6, Part 7
Required Knowledge	How will Evidence be Gathered?
<ul style="list-style-type: none"> advanced functions of spreadsheet software applications 	Part 2, Part 3, Part 4, Part 5, Part 6, Part 7
<ul style="list-style-type: none"> impact of formatting and design on the presentation and readability of data 	Part 2, Part 4
<ul style="list-style-type: none"> key provisions of relevant legislation from all forms of government, standards and codes that may affect aspects of business operations, such as: <ul style="list-style-type: none"> anti-discrimination legislation ethical principles codes of practice privacy laws workplace health and safety 	Part 1
<ul style="list-style-type: none"> organisational policies and procedures 	Part 1

Employability Skills BSB40507 Certificate IV in Business Administration

Employability skills for BSB40507: Certificate IV in Business Administration are assessed in the following assessment tasks.

Employability Skill	Industry/Enterprise Requirements for this Qualification Include:	Task
Communication	<ul style="list-style-type: none"> • communicating with colleagues and customers to gather information about their needs and to provide services • listening to and following complex oral instructions • proofreading and editing • writing clear and detailed instructions 	Part 2, Part 4
Teamwork	<ul style="list-style-type: none"> • agreeing on the purpose and structure of documents, spreadsheets and databases with colleagues and clients • collecting feedback from customers and colleagues • coordinating and consulting with meeting participants • referring queries to colleagues 	Part 2, Part 4
Problem-solving	<ul style="list-style-type: none"> • analysing document requirements and using online help, manuals and user documentation • determining appropriate strategies to respond to user requests • diagnosing customer service complaints and taking steps to improve the service • making decisions about classification and storage of records 	Part 2, Part 3, Part 4, Part 5
Initiative and enterprise	<ul style="list-style-type: none"> • designing complex documents, databases and spreadsheets • evaluating tasks to improve efficiency • suggesting improvements to the structure and design of existing systems 	Part 2, Part 4
Planning and organising	<ul style="list-style-type: none"> • organising resources, equipment and time lines • organising work schedules and meetings • planning future business technology requirements • planning task organisation to meet time lines 	n/a

Employability Skill	Industry/Enterprise Requirements for this Qualification Include:	Task
Self-management	<ul style="list-style-type: none"> • evaluating own performance and identifying areas for improvement • managing time and ensuring ergonomic requirements are met • planning and reviewing own work • using judgement and discretion with confidential information 	n/a
Learning	<ul style="list-style-type: none"> • actively participating in coaching and mentoring sessions to improve standards of service provision • attending training/induction in the use of administrative systems 	n/a
Technology	<ul style="list-style-type: none"> • maintaining existing business technology and planning for future requirements • using business technology such as computers, word processing programs and printers 	Technology is used throughout assessment

BSB Business Services Training Package Supplement

This workbook can be used by learners completing a qualification in the BSB Business Services Training Package.

BSBITU402 Develop and use complex spreadsheets

Application

This unit describes the skills and knowledge required to use spreadsheet software to complete business tasks and produce complex documents.

It applies to individuals employed in a range of work environments who require skills in creation of complex spreadsheets to store and retrieve data. They may work as individuals providing administrative support within an enterprise, or may be independently responsible for designing and working with spreadsheets relevant to their own work roles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Elements and Performance Criteria

Element <i>Elements describe the essential outcomes.</i>	Performance Criteria <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>	Workbook page reference	Assessment Tasks
1. Prepare to develop spreadsheet	1.1 Organise personal work environment in accordance with ergonomic requirements	Software Publications WHS <i>(included in exercise file download)</i>	Part 1
	1.2 Analyse task and determine specifications for spreadsheets	xvii–xxix	Part 2 Part 4
	1.3 Identify organisational and task requirements of data entry, storage, output, reporting and presentation requirements	xvii–xxv	Part 2 Part 4
	1.4 Apply work organisation strategies and energy and resource conservation techniques to plan work activities	Software Publications WHS	Part 1
2. Develop a linked spreadsheet solution	2.1 Utilise spreadsheet design software functions and formulae to meet identified requirements	Throughout workbook	Part 2 Part 3 Part 4 Part 5 Part 6
	2.2 Link spreadsheets in accordance with software procedures	94–101	Part 4 Part 5
	2.3 Format cells and use data attributes assigned with relative and/or absolute cell references, in accordance with task specifications	Throughout workbook	Part 2 Part 4
	2.4 Test formulae to confirm output meets task requirements	34–42	Part 2 Part 3 Part 6

Element <i>Elements describe the essential outcomes.</i>	Performance Criteria <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>	Workbook page reference	Assessment Tasks
3. Automate and standardise spreadsheet operation	3.1 Evaluate tasks to identify those where automation would increase efficiency	155–166, 170–182	Part 2
	3.2 Create, use and edit macros to fulfil requirements of task and automate spreadsheet operation	153–166	Part 2 Part 6
	3.3 Develop, edit and use templates to ensure consistency of design and layout for forms and reports, in accordance with organisational requirements	170–182	Part 2 Part 3 Part 4 Part 5
4. Use spreadsheets	4.1 Enter, check and amend data in accordance with organisational and task requirements	Throughout workbook	Part 3 Part 7
	4.2 Import and export data between compatible spreadsheets and adjust host documents, in accordance with software and system procedures	183–188	Part 2
	4.3 Use manuals, user documentation and online help to overcome problems with spreadsheet design and production	xiv, xxiv, 45–47	Part 6
	4.4 Preview, adjust and print spreadsheet in accordance with organisational and task requirements	Throughout workbook	Part 3 Part 7
	4.5 Name and store spreadsheet in accordance with organisational requirements and exit application without data loss or damage	Throughout workbook	Part 2 Part 3 Part 4 Part 5 Part 6 Part 7
5. Represent numerical data in graphic form	5.1 Determine style of graph to meet specified requirements and manipulate spreadsheet data if necessary to suit graph requirements	54–76	Part 4
	5.2 Create graphs with labels and titles from numerical data contained in a spreadsheet file		Part 4
	5.3 Save, view and print graph within designated timelines		Part 7

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description	Workbook page reference
Reading	1.2, 1.3, 2.3, 2.4, 3.1, 3.3, 4.1-4.5, 5.1, 5.2	<ul style="list-style-type: none"> Recognises and interprets numerical and textual information within a range of sources to determine and complete work according to requirements 	Throughout workbook
		<ul style="list-style-type: none"> Reviews information to determine accuracy and consistency 	Throughout workbook
Writing	2.1-2.4, 3.2, 3.3, 4.1, 4.2, 4.4, 4.5, 5.2, 5.3	<ul style="list-style-type: none"> Uses formal mathematical language to create formulas and enters routine data using a format appropriate to requirements 	Throughout workbook
		<ul style="list-style-type: none"> Develops material using syntactic structure, required format and incorporating technical functions to meet business needs 	Throughout workbook
Oral Communication	1.2	<ul style="list-style-type: none"> Uses listening and questioning skills to clarify requirements 	xiv, xvi
Numeracy	2.1-2.4, 3.2, 4.1, 4.2, 5.2	<ul style="list-style-type: none"> Represents mathematical information in an alternative form and analyses information to determine required spreadsheet formulae and macros 	Throughout workbook
Navigate the world of work	1.1, 1.3, 1.4, 2.1-2.4, 3.2, 3.3, 4.1, 4.2, 4.4, 4.5, 5.1, 5.3	<ul style="list-style-type: none"> Recognises and follows explicit and implicit protocols and meets expectations associated with own role 	Throughout workbook
Get the work done	1.2, 1.4, 2.1-2.4, 3.2, 3.3, 4.1-4.5, 5.1-5.3	<ul style="list-style-type: none"> Applies formal processes when planning more complex/unfamiliar tasks, producing plans with logically sequenced steps 	xvii–xx
		<ul style="list-style-type: none"> Uses formal thinking techniques to generate new ideas 	Throughout workbook
		<ul style="list-style-type: none"> Uses advanced features within applications to access, store, organise data and perform routine and complex work tasks 	Throughout workbook

Assessment Requirements v1.0

Performance Evidence

Evidence of the ability to:	Assessment task
<ul style="list-style-type: none"> follow organisational and safe work practices including: ergonomic requirements energy and resource conservation techniques 	Part 1
<ul style="list-style-type: none"> adhere to organisational requirements for: ensuring consistency of style, design and layout saving and printing documents within designated timelines naming and storing documents 	Parts 2–7
<ul style="list-style-type: none"> adhere to identified or task requirements when producing documents including: editing macros and automating some tasks using appropriate templates creating graphs to represent data 	Parts 2–5, Part 7
<ul style="list-style-type: none"> resolve issues by referring to user documentation and online help 	Part 6
<ul style="list-style-type: none"> use appropriate data storage options 	Parts 2–7
<ul style="list-style-type: none"> evaluate tasks to improve efficiency 	Parts 2–5
<ul style="list-style-type: none"> apply knowledge of functions and features of contemporary computer applications 	Parts 2–7
<ul style="list-style-type: none"> communicate with relevant personnel. 	Candidate can discuss assessment requirements with assessor as required

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:	Assessment task
<ul style="list-style-type: none"> explain advanced functions of spreadsheet software applications 	Parts 2–7
<ul style="list-style-type: none"> describe impact of formatting and design on presentation and readability of data 	Parts 2–5, Part 7
<ul style="list-style-type: none"> explain organisational requirements for ergonomics, work periods and breaks, and conservation techniques. 	Part 1