What this module is about

How are you now my dear student? Are you ok and feeling well and ready for the next module? What is the most disliked subject by students like you? Math...but why? It is fun and exciting to play numbers. I will teach you how to Love numbers. We can't keep away from numbers, because in our daily lives they play an important role, particularly in preparing and handling budgets or in making financial decisions.

This module is designed for you to be able to do the following learning tasks:

1. Explain the meaning, importance of spreadsheet and how it works;
2. Describe the three entries used in spreadsheet;
3. Acquaint oneself with the spreadsheet screen;
4. Discuss planning and designing a spreadsheet;
5. Perform the common spreadsheet features;
6. Apply mathematical functions in performing special operations;
8. Create presentation graphics on spreadsheet data;
9. Discuss key concerns in changing a spreadsheet and give examples of integrated packages.

How to learn from this module

1. Read the lessons very well.
2. Follow instructions in performing activities and answering the self-check. Be honest.
3. Answer the pretest and posttest.

PRETEST

Directions: Write only the letter of the correct answer.

1. What do you call the program designed for encoding label, value and formula into a matrix of rows and columns?
      a. MS Word
      b. MS Excel
      c. MS Office
      d. MS Powerpoint

2. What do you call the intersection of rows and columns?
      a. cell
      b. cell address
      c. cell points
      d. active cell

3. If you want to duplicate your worksheet data to other part of the worksheet area, what will be the command?
      a. cut and paste
      b. move and paste
      c. copy and paste
      d. cut and copy

4. Where do you classify those numbers in the phone directory, home address and age?
      a. numbers
      b. value
      c. formula
      d. label

5. Which of the following items does not belong to the group?
      a. label
      b. value
      c. formula
      d. symbols

6. What do you call expressions that instruct the program to perform calculations?
      a. basic function
      b. value
      c. label
      d. formula

7. What part of the worksheet screen displays reference to the location of the active cell?
    a. title bar
    b. menu bar
    c. formula bar
    d. system bar

8. In which menu does Microsfot Excel program belongs?
    a. document
    b. settings
    c. program
    d. find

9. The kind of spreadsheet command that adds one or more blank rows or columns in an already constructed worksheet?
    a. delete
    b. insert
    c. move
    d. copy

10. The symbol used before typing the formula.
    a. +
    b. =
    c. -
    d. /

11. The kind of menu to which the command delete belongs.
    a. file
    b. edit
    c. format
    d. insert

12. The command to change the size of the row.
    a. row-height
    b. row-width
    c. row-height-width
    d. row

13. The mathematical function that finds the highest number in a column.
    a. max
    b. min
    c. AVG
    d. Sum

14. Which of these functions is not a mathematical function?
    a. @ If

b. Sum

c. AVG

d. SQRT

15. The mathematical function that finds the total of the cells.
   a. average
   b. sum
   c. max
   d. min

16. The instructional program used in executing repeated commands of the same text?
   a. Micro
   b. Macro
   c. MS Excel
   d. MS Word

17. The kind of menu to which the macro program belongs.
   a. file
   b. edit
   c. tools
   d. view

18. The type of graph that shows the relationship of the parts of a whole.
   a. bar
   b. line
   c. stashed bar
   d. pie

19. A graphic representation of the relationship of numerical data.
   a. chart
   b. column
   c. table
   d. picture

20. In loading the MS Excel program to the computers memory, what button will you press?
   a. window button
   b. open button
   c. resizing button
   d. start

Lesson 1
Electronic Spreadsheet

In the preceding module, you have learned that MS Word software is a text editing program which allows the user to type, format the text and execute the print-formatting operations to enhance the appearance of the text. This time, you will use another software the MS-Excel. MS Excel is a program that allows the user to encode/type value, label and formula into a matrix of rows and columns.

If you're ready, let's start the lesson with some computer terminologies that will guide you to understand the lessons. You may use them at all times.

Terms	Meaning
1. Cell	An area in memory that stores one unit of information.
2. Column	A way of arranging data in a narrow strip down page.
3. Copy Command	A command that copies/duplicates text, values and formula into another cell.
4. Delete Command	A command that erases/deletes one or more blank rows or columns into the worksheet.
5. Column Width Command	A command that sets/changes the width or size of a column.
6. Insert Command	A command that adds/inserts one or more blank rows or columns into the constructed worksheet
7. Move Command	A command that transfers content from one cell to another.
8. Rows	A way of arranging data across a page or screen.
9. Row Height Command	A command that sets/changes the height or size of the row.
10. Spreadsheet / worksheet	A table used to calculate the cost of something. It is made up of rows and columns.

What is an electronic spreadsheet?

Electronic spreadsheet is an application program simulating the columnar tables created manually to summarize financial information. It enables you to embed hidden formulas that perform sophisticated calculations automatically on data.

Kinds of Data Entries

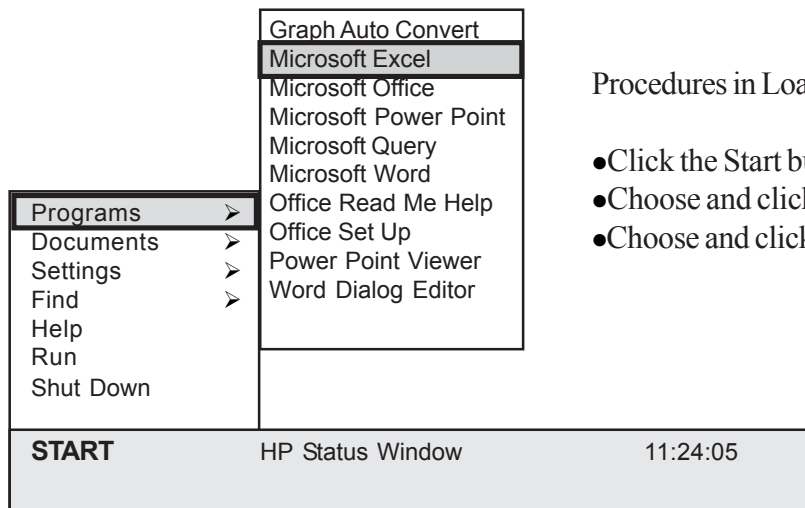| Data Entries	Description
Labels	The text (usually alphabetic character or certain special symbols) that are used to identify various aspects of the spreadsheet. Numbers which are not used for computation are also considered a label.
Values	Numerical data contained in the cell.

Formula   An expression that instructs the program to perform calculations on numeric data.

Parts of the Excel Screen

File	Edit	View	Insert	Format	Tools	Data	Window	Help
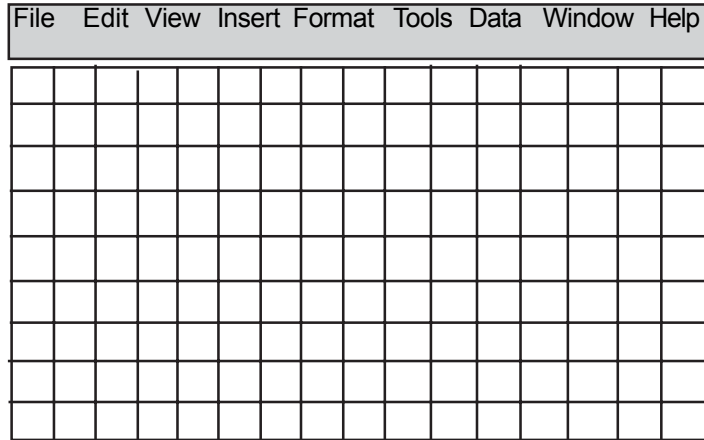
Parts	Description
1. Title Bar	The bar at the top of a program or document or window which indicates the program you are working.
2. Menu Bar	A list of menu names which you can see below the title bar.
3. Status Bar	A bar at the bottom of the screen that explains the selected command.
4. Standard and Formatting Tool Bar	Located at the top of the screen and consist of buttons for easy access to common tasks available in your pull-down menu.
5. Formula Bar	Displays a reference to the location of active cells.
6. Worksheet Window	Labelled cells arranged in rows and columns.

How to Load MS Excel Programs

Graph Auto Convert
Microsoft Excel
Microsoft Office
Microsoft Power Point
Microsoft Query
Microsoft Word
Office Read Me Help
Office Set Up
Power Point Viewer
Word Dialog Editor

Programs ➢
Documents ➢
Settings ➢
Find ➢
Help
Run
Shut Down

START   HP Status Window   11:24:05

Procedures in Loading

● Click the Start button.
● Choose and click Programs.
● Choose and click Microsoft Excel

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How to Create a New Spreadsheet

Often loading the MS Excel program, a blank worksheet is displayed, ready for the entry of data.

Procedure:
1. Place the insertion point on the cell you want the data entry to appear.
2. Enter/type the label and value data on their corresponding cell.

Note: After typing the data in each cell, always press the enter key or the cursor key. (Left and right arrow key and the up and down arrow key) to encode the next data.

Activity 1

Creating a New Worksheet

1. Enter /type the label and value entry on the prescribed cell address.

Columnar Heading
Student No. - A1	Grade - D1
Name - B1	Unit - E1
Subject - C1	

Label and value entry per cell:
1. A2-03-001; B2-Ching;	C2-Accounting; D2-92; E2-6
	C3-Math; D3-88; E3-5
	C4-Science; D4-87; E4-3
2. A5-03-002; B5-David;	C5-Filipino; D5-84; E5-3
	C6-History; D6-89; E6-3
	C7- Marketing; D7-86; E7-5
3. A8-03-003; B8-Bermas;	C8-English; D8-85; E8-3
	C9-Drafting; D9-92; E9-5
	C10-Tech Writing; D10-90; E10-5
4. A11-03-004; B11-Guevarra;	C11-Handicraft; D11-85; E11-5
	C12-Psychology; D12-84; E12-3
	C13-Logic; D13-84; E13-3

2. Save your worksheet with a file name Grade.
3. Print your worksheet.

Actual Output of the New Worksheet

1 Student Number	Name	Subject	Grade	Unit
2 03-001	Ching	Accounting	92	6
3		Math	88	5
4		Science	87	3
5 03-002	David	Filipino	84	3
6		History	89	3
7		Marketing	86	5
8 03-003	Bermas	English	85	3
9		Drafting	92	5
10		Tech Writing	90	5
11 03-004	Guevarra	Handicraft	85	5
12		Psychology	84	3
13		Logic	84	3

Inserting and Deleting of Rows or Columns

Procedure:
- Place your insertion point at your desired cell.
- Click the Insert command.
- Click row if you want to insert a row and click column, if you want to insert column.

Note: In deleting row or column
Use almost the same procedure as in the Insert command. You're going to change only step 2 - click the Delete command.

Entering of Formulas

Formula is a rule in mathematics using symbols. It is used to solve calculation.

Procedure:
- Position the insertion point in the cell you want the answer to appear.
- Type the formula.
  Note: 1. All formula must begin with an equal sign (=).
  2. Type the addresses of the cells whose value will be manipulated with appro priate operands placed in between.

Sample Activity: Entering Formula
1. Retrieve the worksheet Grade.
2. Insert a column between column B & C.
3. Insert a row between row 4 & 5, 8 & 9, 12 & 13.

4. Since column C is now vacant, Type the column heading SEX - C1; Type the corresponding sex of Ching and David - F; Bermas and Guevarra - M.

5. Compute for the general average of the three subjects and credit units learned by each student by typing the formula.

        Ex. = sum (E2: E4) / 3

6. Place your answer on cell E5 and F5, E9 and F9, E13-F13, E17-F17.

7. Apply the Bold print on the different answers.

8. Insert again a row in between the answer and the next student.

9. Type your name in row 25.

10. Center the grades and the units learned.

11. Save your worksheet under the filename AVGRADE.

12. Print your work.

Output of the Edited Worksheet

	A	B	C	D	E	F
1	Student Number	Name	Sex	Subject	Grade	Unit
2	03-001	Ching	F	Accounting	92	6
3				Math	88	5
4				Science	87	3
5					89	14
6						
7	03-002	David	F	Filipino	84	38
8				Management	89	3
9				Marketing	86	5
10					86.33	11
11						
12	03-003	Bermas	M	English	85	3
13				Drafting	92	5
14				Tech Writing	90	5
15					89	13
16						
17	03-004	Guevarra	M	Handicraft	85	5
18				Psychology	84	3
19				Logic	84	3
20					84.33	11

Saving and Closing the Spreadsheet

Procedure:

●Click the file/save as menu.

●Click the look-in box, and specify the Drive or Directory.

    Note: If your file is located at a different directory.

●Click the file name box and Erase the temporary file name.

●Type the assigned file name.

●Click the Save/Ok button or simply press the Enter key.

●Click the File/Close button to close the currently open file.

Retrieving/Opening an Existing File

●Click the File / Open menu or simply click the Open button of the Standard Toolbar.

●The dialog box of the Open menu will appear.

●Specify the Drive or Directory at the Look-in box.

Note: If your file is located at a different directory.

●Choose and click the file name to be retrieved / opened.

●Click the Open / Ok button or simply press the Enter key.

Quitting the MS Excel Program

Two ways of quitting the Excel Program:

1. Click the File / Exit menu.

2. Click the Close button located at the upper right corner of your Excel window.

Activity 2: Preparation of a Budget Worksheet

Directions: 1. Prepare a financial budget good for one week - P 5,000.

2. List down only 5 important expenses incurred during the week.

3. Format of the worksheet:

●Column heading:

Expenses

Monday, Tuesday, Wednesday to Sunday

Total Expenses

●Listing of entries starts on A3 and so on.

4. After the last entry, compute the total expenses per day horizontally & vertically.

5. Type the word "Total" on the last entry of the expenses.

6. Place a blank row after each entry.

7. Save your work under the filename "Budget."

8. Type your name on A 10.

9. Print your work.

No.	Description	1	2	3	4	5
1	Did you follow instructions carefully?					
2	Are the labels and value entries properly typed?					
3	Are the mathematical computations accurate?					
4	Did you type the formula correctly?					
5	Did you finish your work on time?					
6	Did you work independently?					
7	Did you enjoy working on this activity?					
8	Is the printing of the worksheet properly done?					
9	Did you save your work on the diskette?					
10	Do the worksheet commands involve in preparing the Budget worksheet, properly executed?					

Legend:

Self-check:

Directions: Arrange the following steps in proper order by writing number 1 for the first step, 2 for the second, and so on down to the last.

_____a. Place the insertion pointer on the cell you want the data to appear.

_____b. Retrieve / open the existing worksheet.

_____c. Type the formula needed in solving the data.

_____d. Load the MS Excel into the computer's memory.

_____e. Quit on the current worksheet.

_____f. Insert column or row for additional data to be encoded.

_____g. Enter or type the label and value entries.

_____h. Save your work.

_____i. Type your name on the prescribed cell.

Copying and Moving the Content of One Cell or Group of Cells to Other Cell

1. Using mouse or mouse dragging.

    Procedure:

        Highlight the cell or group / range of cells by holding down the left mouse button until all the cells containing the data you want to copy or move have been selected.

        Release the mouse button.

        Drag the shaded cell to the new location.

        Release the mouse button.

2. With the use of the Edit Menu

    Cut and paste command - moving of text from one cell to another cell.

    Procedure:

        ●Highlight the cell, group or range of cells to move.

        ●Click the Edit menu.

        ●Choose and click the cut command.

        ●Choose and click the cell you want the data to be transferred or moved.

        ●Choose and click the paste command.

Resizing of Rows and Columns

There are two ways of resizing rows and columns, as follows:

1. By dragging - with the use of mouse
    - Resize a row - by dragging the line below the label of the row you would like to resize.
    - Resize a column - by dragging the line to the right of the label corresponding to the column you want to resize.
2. By the Format Command
    - Click the row or column label.
    - Select Format / Row / Height - row or
        Format / Column / Width - column from the menu bar.
    - Type the numerical value for the height of the rows or the width of the column.

Formatting Numbers

Procedure:
- Position the insertion pointer on the cell the numbers of which you want to be formatted.
- Click Format from the menu bar.
- Choose and click Cell.
- Choose and click Number Tab.
- Choose and click the different options in formatting the value data such as : General, Number, Currency, Comma, etc.
- Click the ok button.

Activity 3

Directions:
1. Keep on practicing / exploring the execution of the following commands:
    Insert and Delete command
    Copy and move command
    Resizing of rows and columns
    Formatting of numbers

2. Observe the effects of the four commands mentioned above in an already constructed worksheet after the execution.
3. Make a report of your observation on the effects of these commands on an already constructed worksheet on a one whole sheet of pad paper.
4. Cite at least five (5) observations for each command.

Self-check:

Directions: Analyze the following statements. Indicate / for correct responses and x for incorrect responses. Write the answers on your quiz booklet.

1. The cut and paste, and the copy and paste command are the two ways of transferring data from one location to another.

2. Dragging means blocking / highlighting the data.
3. Using the Format Comma means arranging the numbers by adding a comma sign and a decimal point to a number.
4. To resize a column, click Format/ Column - Height.
5. The most important step in applying all the different worksheet commands is the placement of the insertion pointer on the worksheet area.

Mathematical Functions

Basic functions can be a more efficient way of performing mathematical operations compared to the use of formulas.

Function	Formula	Description
Sum	=Sum (A1:C10)	Finds the total of cells A1 through C10.
Average	=Average (A10:B10)	Finds the average of cells A1 through B10.
Maximum	=Max (A1:A10)	Finds the highest numbers from A1 through A10.
Minimize	=Min (B1:B10)	Finds the lowest number from B1 through B10.
Square Root	=SQRT (B5)	Finds the square root of the value in cell B5.

Procedure:
1. Place the insertion pointer on the cell you want the answer to appear.
2. Type the equal sign (=).
3. Choose and click the function button on the formatting toolbar.
4. The dialog box of the mathematical function appears.
5. Choose and click the type of the basic function needed in solving given data like, for example, the average sum and others.
6. The dialog box of the function arguments appears, then you are required to type the cell address of the data - (from...to) needed in the computations.
7. Click the Ok button.

Series of Operations Using Macros

Macro is a program instruction that carries out or executes a series of instructions. It is useful when the same text or series of commands must be repeated.

Recording a Macro

Macros can speed up any common editing sequence you may execute in an Excel spreadsheet. The procedure in setting all the margins on the page to one inch are as follows:
- Click the Tools/Macro/Record New Macro from the menu bar.
- Click on the Macro Name Field and name the macro.
- Assign a shortcut key to the macro for easy use. Enter the letter under shortcut key.

Note: ●Type a lower case letter to make a CTRL and NUMBER SHORTCUT..

●Type an upper case letter to assign a CTRL + SHIFT + NUMBER SHORTCUT KEY.

●If you select a short key that Excel already used the macro will overwrite that function.

●Select an option from the Store Macro in drop down menu.

●Type a description of the Macro in the Description Field.

●Click Ok when you are ready to start recording.

●Select options from the drop down menus, and Excel will record the options you choose from the dialog boxes.

●Select File/Page Set-up and change margins to 1.

●Press the OK button.

●Click the STOP button of the recording toolbar. The Macro is now saved.

Running a Macro

Procedure:
1. Select Tools/Macro/Macros from the menu bar.
2. Highlight the Macro Name in the list.
3. Click Run.
4. If you want to stop macro while it is running, press Break (hold CTRL and press Pause).

Activity 4

Directions:
1. Create a new worksheet for this activity.
2. Encode/type the label and value data on their prescribed cell.

       Student No.   -A5

       Name   -B5

       English   -C5 up to MAPEH - J5

3. Start typing the data entry on A7.
4. After typing the different grades of each student in their respective subjects, apply now the different math functions such as:

       Sum, Average, Maximum, and Minimum

5. Record the accomplishment of each student in the prescribed cell.

       Find the average - place the answer in column K.

         Highest Grade - Column L

         Lowest Grade - Column M

         Sum   - Column N

6. Type the columnar heading Average, Maximum, Minimum, and Sum on the column mentioned in step 5.
7. Save your work under the title "Math Fun".
8. On A1- title is "Summary of Grades"

       A3   - type the subtitle

          SY 2003-2004

9. Don't repeat your work just apply the different worksheet command that you have learned in doing Step 8.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Student #	Name	English	Filipino	Math	Science	A. Pan.	E. Pag.	TLE	MAPEH				
001	Abad	85	88	93	86	89	80	90	87				
002	Bernabe	87	90	90	89	86	90	90	88				
003	Castro	83	85	87	86	92	88	93	90				
004	Espina	80	92	84	85	88	90	90	87				
005	Fajardo	90	87	88	90	91	90	90	87				

Graphic Presentation

Electronic spreadsheet is a program which is not only designed for numerical computations arranged in rows and columns. Another function of this program is to allow the users to use these values to create different charts in a graphical representation.

Types of graphs available from most graphic presentation software

Types	Description
1. Bar graph	Uses a fixed scale to compare data in simple and compound relationships.
2. Pie graph	Shows the relationship of the parts of a whole.
3. Line graph	Shows trends and emphasizes the movement and direction of change over a period of time.
4. Scatter graph	Shows the correlation between two sets of data.

How to Create a Chart

⇨Enter data into the worksheet and highlight all the cells that will be included in the chart, including headers.

⇨Click the Chart Wizard button on the standard toolbar to view the first chart wizard dialog box.

⇨Chart Type - Choose the Chart Type you want and the subtype, if necessary.

⇨Click button Next.

⇨Chart Source Data - Select and highlight data range - if different from the area highlighted in Step 1.

⇨Click Next button.

⇨Chart Options - Type the name of the chart and titles for the X- and Y- axis. Other options to enhance the appearance of the chart such as the axes, gridlines, legend, data, labels and data table can be changed by clicking on the tabs.

⇨Click Next button to move to the next set of options.

⇨Chart location - click As New Sheet - If the chart would be placed on a new, blank worksheet or click As Object In - If the chart should be embedded in an existing sheet and select the worksheet from the drop down menu.

⇨Click Finish to create the chart.

Rezising the Chart

To rezise the chart, click on its border and drag any of the nine black handles to change the size.

Handles on the corners will resize the chart proportionally.

Handles along the lines will stretch the chart.

Moving the Chart

●Select the border of the chart.

●Hold down the left mouse button.

●Drag the chart to a new location.

Aspects on the chart such as the title and labels may also be moved within the chart.

●Click on the element to activate it.

●Use the mouse to drag the element to move it.

Activity 5

Directions: 1. Retrieve the worksheet Grade and Budget one at a time.

2. Create the four types of graphs for each worksheet.

3. Enhance the appearance of your graph.

4. Type your name on the last/bottom part of the graph.

5. Assign your own file name for the different graphs you are going to prepare.

6. Print your work.

Self-check:

Directions: Arrange the following steps in proper order by writing number 1 for the first step, 2 for the second, and so on down to the last.

_____1. Click finish.

_____2. Click the Chart Wizard Button.

_____3. Type the name of the chart and other chart options, then click Next.

_____4. Highlight all the cells that will be included in the chart including headers.

_____5. Choose and click the type of chart you want and click Next.

_____6. Choose and click the chart location.

LET'S SUMMARIZE

Today, with the new inventions in technology, the tedious, complicated and time consuming job of the accountants, statistician and others having the same line of specialization in preparing reports is no longer a problem and it has now come to an end. Thanks to the computers and the sophisticated software tools like the MS Excel. This software eliminates difficulties in preparing spreadsheets manually, making work with numbers easier and faster and accurately.

Electronic spreadsheet is one of the most powerful application programs designed to perform sophisticated calculations automatically based on numeric data given. The numeric data are organized into rows and columns just like the manual worksheet of accountants. It is a generalized analytical tool for solving a wide range of problems with its capabilities to perform quick and free calculation.

Electronic spreadsheet has easy to use commands in constructing a worksheet and making it clear and easy to understand. It has built-in functions to do calculations on the content of specified cells, like getting the Sum and Average. It also allows you to define your own formula.

Besides calculations, spreadsheets integrate graphics. With spreadsheets, you can use the graphical presentation that suits your needs. You can draw a bar graph, pie graph, line graph, and scatter bar. Graphic images give meaning to the data entered into the worksheet in a visual format.

KEY TO CORRECTION

Pretest/Posttest
1. b
2. a
3. c
4. d
5. d
6. d
7. c
8. c
9. b
10. b
11. b
12. a
13. a
14. a
15. b
16. b
17. c
18. d
19. a
20. d