

Excel 2010

Level 3A – Class Notes

Excel 2010 Online Training

Presented by



*There is a pre-requisite for this course, please read it on the next page and be sure you meet the criteria.

Pre-requisite for this course

The time requirements for this class mean that the instructor will be unable to review material covered in previous classes. Learners may wish to take an earlier level class before participating in this one if they do not meet the following criteria:

Learners should:

- **Know how to use the fill handle/auto-fill**
- Know how to navigate an excel spreadsheet & use basic selection techniques
- Know how to copy, cut, and paste
- Understand basic excel/spreadsheet terminology

Course Topics

- Using Logical functions
- Using Math & Statistical functions
- Using Financial & Date functions
- Using Lookup functions

Logical & Math Functions

- Logical Functions – can be used to test conditions and return a specific result depending on whether the condition is met or not.
 - The IF Function
 - IF(logical test, value if true, value if false) (up to 255 tests)
 - The AND Function
 - AND(logical test1, logical test2,...)
 - Returns TRUE or FALSE
 - If **all** tests are true, returns TRUE
 - If **all** tests are false, returns FALSE
 - If **only one** test is false, returns FALSE
 - The OR Function
 - OR(logical test1, logical test2,...) (up to 255 tests)
 - Returns TRUE or FALSE
 - If **all** tests are true, returns TRUE
 - If **all** tests are false, returns FALSE
 - If **only one** test is true, returns TRUE
 - The NOT Function
 - NOT(logical test1, logical test2) (only two tests allowed)
 - Returns TRUE or FALSE
 - Reverses the result of the logical test (ex. The test returns TRUE. The NOT statement is =NOT(True) so returns FALSE)
 - Useful if you want to make sure a value is not equal to one particular value
 - The IFERROR Function
 - Use this function if you want to check a formula for errors and replace Excel's default error message with one of your own
 - IFERROR(value, value if error)
 - Ex. Formula is b7/c7, if c7 = 0 the DIV/0 error comes up. Instead of showing the DIV/0 error comes up use this formula:
IFERROR(b7/c7, "Check value in c7")
 - If there is no error, the result of the b7/c7 is returned
 - If there is a resulting error the user gets the "Check value in c7" message

- **Nested Logical Functions**
 - You can nest up to 8 logical functions in one cell
 - Use nested logical functions to evaluate multiple conditions
 - IF(logical test, value if true, IF(logical test, value if true, IF(logical test, value if true, value if false)))
 - Instead of returning a value if false for the first test, Excel would then evaluate for a second condition, and then a third condition until all conditions are tested/met
- **Math Functions (checking one criteria)**
 - SUMIF – used to sum cells if certain criteria/conditions are met
 - SUMIF(range, criteria, sum_range) (range = the range to check, criteria is the logical test, sum_range is the range to sum)
 - COUNTIF – used to count cells if certain criteria/conditions are met
 - COUNTIF(range, criteria) (range is the range to count, criteria is the test)
 - AVERAGEIF – used to average cells if certain conditions are met
 - AVERAGEIF(range, criteria, average_range) (range is the range to check, criteria is the test, average_range is the range to average)
- **Math Functions (checking multiple criteria)**
 - SUMIFS – used to sum cells if multiple criteria are met
 - SUMIFS (sum_range, criteria_range1, criteria1, criteria_range2, criteria2...) (up to 127 criteria range pairs are allowed)
 - Sum_range = the range you wish to add
 - Criteria_range = the first range where you're applying the criteria
 - Criteria = the conditions that must be met by the paired criteria range
 - COUNTIFS – used to count cells if multiple criteria are met
 - COUNTIFS(count_range, criteria_range1, criteria1, criteria_range2, criteria2...) (up to 127 criteria range pairs are allowed)
 - Count_range = the range you wish to count
 - Criteria_range = the first range where you're applying the criteria
 - Criteria = the conditions that must be met by the paired criteria range
 - AVERAGEIFS – used to average cells if multiple criteria are met
 - AVERAGEIFS(average_range, criteria_range1, criteria1, criteria_range2, criteria2...) (up to 127 criteria range pairs are allowed)
 - Average_range = the range you wish to average
 - Criteria_range = the first range where you're applying the criteria
 - Criteria = the conditions that must be met by the paired criteria range

Financial & Date Functions

- **PMT Function**
 - Calculates loan payments (regular payments at a fixed interest rate)
 - `PMT(rate, nper, pv, fv, type)`
 - Rate = Interest rate per period
 - Nper = Number of payments to be made
 - Pv = present value or principal amount
 - Fv = future value (optional)
 - Type = indicates when payments are due (optional) (will be a 0 when payments are due at the end of the period or a 1 when due at the beginning of the period)
- **Date / Time Functions**
 - Can be used to calculate the number of days between two dates or used to display the current date/time.
 - `NOW()`
 - `TODAY()`

Lookup Functions

- Lookup functions are used to look up one piece of information by using another, different piece of information. (Ex. You want to look up someone's employee number if you have their name or you want to see how much of a discount should be given on a certain level of sales.)
- HLOOKUP
 - Finds values in a table that has row labels in the left-most column
 - HLOOKUP(lookup_value, table_array, row_index_num, range_lookup)
 - Lookup_value = is located in the first row of the lookup table
 - Table_array = name of the lookup table range
 - Row_index_num = the number of the row from which the value will be returned
 - Range_lookup = is an optional argument that specifies whether the match is exact (FALSE) or approximate (TRUE or leave it blank)
 - See the example (in class) for a better understanding of how the HLOOKUP works
- VLOOKUP
 - Finds values in a table that has labels in the top row
 - VLOOKUP((lookup_value, table_array, col_index_num, range_lookup)
 - Lookup_value = is located in the first column of the lookup table
 - Table_array = name of the lookup table range
 - Col_index_num = the number of the column from which the value will be returned
 - Range_lookup = is an optional argument that specifies whether the match is exact (FALSE) or approximate (TRUE or leave it blank)
 - See the example (in class) for a better understanding of how the HLOOKUP works
- MATCH and INDEX Functions
 - These can be used separately, but are probably best used together to lookup values when the reference isn't in the top row (VLOOKUP) or left column (HLOOKUP)

- Used together, MATCH and INDEX can lookup values that are not in the top row or leftmost column of an array. The HLOOKUP and VLOOKUP are limited, MATCH and INDEX are not.
- MATCH(lookup_value, lookup_array, match_type)
 - Lookup_value = the value you want to find
 - Lookup_array = the range of cells containing possible lookup values
 - Match_type = an optional argument (0, 1, or -1)
- INDEX(range, row_num, col_num)
 - Range = the group of cells in which to look for the value
 - Row_num = the row from which the value will be returned
 - Col_num = the column from which the value will be returned
- INDEX(range, row_num, MATCH(lookup_value, Lookup_array, match_type))
 - This formula will find the row number specified by the lookup value, then find the corresponding column number (which is not the leftmost column)
- All of these functions and their use will be demonstrated during the class.

Follow-up Classes

- Excel 2010 – Level 3B
 - Creating data tables
 - Array formulas
 - Validating cell entries
 - Exploring database functions
 - Exporting & importing txt files
 - Querying external databases
 - Using Goal Seek, Solver, and Scenarios
- Excel 2010 – Level 3C
 - Creating and using pivot tables and charts
 - Using Conditional formatting graphics
- Excel 2010 – Level 3D
 - Create custom views
 - Using Macros
 - Creating user-defined functions