# Microsoft Excel Expert 2019 (Office 365 Apps) Student Study Guide: Project 3

**Instructions:** In this project there are 32 tasks based on the exam objectives for Exam MO-211: Microsoft Excel Expert (Microsoft 365 Apps). For each exam objective, complete the task(s) using the supporting files listed below under **Resources**. After each task is completed, check the task box to mark it as complete.

**Note**: Refer to the Learning Directory for step-by-step guidance and additional resources, if needed.

**Resources:**

* **Project3\_datafile.xlsx** in the **Project\_Files** folder.
* **FarmBox\_Sales\_2019-2021.xlsx** in the **Project\_Files** folder.
* **ProjectedSales.xlsx** in the **Project\_Files** folder.
* **ImportMacro.xlsm** in the **Project\_Files** folder.
* **FarmersMarket\_Registration.xlsx** in the **Project\_Files** folder.
* **5-Year\_Projection.xlsx** in the **Project\_Files** folder

## Project 3 Tasks

3.3.2 Calculate dates by using the WEEKDAY() and WORKDAY() functions

3.3.1 Reference date and time by using the NOW() and TODAY() functions

In the Project3\_datafile.xlsx workbook, on the OrderArrival worksheet, enter a nested function in the Expected arrival (if ordered today) column that returns the expected product arrival date if it’s ordered today. Include the number of days in the Shipping days column and that shipping will not take place on weekends or the holidays in the PostalHolidays range on the Postal holidays 2022-2023 worksheet.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the Sales worksheet, in the Product category column, use an XLOOKUP() function to retrieve the product category from the OrderArrival worksheet by matching the values in the Product ID columns on both worksheets. Configure the function so if there is no Product ID on the Sales sheet, the function returns nothing.

4.2.5 Add calculated fields

4.2.6 Configure value field settings

On the Sales Discounts worksheet, in the SalesDiscounts PivotTable, add a Calculated Field named “5% discount” that displays the Order total field less 5% of the Order total. Ensure it’s in the Value bin after the Sales with existing discounts field, and then format it with the Accounting format with no decimals and the custom name "Sales with 5% discount."

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

4.1.1 Create and modify dual axis charts

4.3.3 Apply styles to PivotCharts

4.3.2 Manipulate options in existing PivotCharts

On the Sales Discounts worksheet, change the chart type of the SalesDiscounts PivotChart to a Combo chart. The "Sales with existing discounts" series should be a "Line with Markers" chart and the "Sales with 5% discount" series should be an Area chart with a Secondary Axis. Apply the Style 6 Chart Style and move the chart to a new worksheet named “Sales comparison.”

2.3.3 Manage conditional formatting rules

2.3.1 Create custom conditional formatting rules

On the Sales by City worksheet, remove existing Conditional Formatting from the Total Order Amount values in C4:C21. For the same range, create a new custom Conditional Formatting Rule so if the value falls in the top 25% of all values in the range, the Font style will be Bold and the Font Color will be the Darkest Theme Green, which is Green, Accent 6, Darker 50%.

2.2.2 Configure data validation

On the Sales by City worksheet, use Data Validation to create a list in cell A28 that allows entry only of the City values in A4:A21. When A28 is selected, display an Input Message with the title “Select City” and the Input Message “Select a city from the list.” If entry of other values is attempted, a Stop icon and an error message should appear with the title “City Not Found” and the Error Message “You must select a city from the list.”

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

On the Sales by City worksheet, in cell B28, enter a function that returns the total amount for the Order total column on the Sales worksheet for all Honey products orders, which have a product ID beginning with H, that were placed in the city specified in cell A28. If there is no City selected in Cell A28, the text “No city” should be displayed. Paste this function to C28 and then change the function so it will return the Average of all Honey orders for the city specified, while still displaying “No city” if no city is selected in A28.

4.3.4 Drill down into PivotChart details

On the Frequency by County worksheet, filter the ByCounty PivotChart to show only data from Whatcom County and then expand the chart to City.

3.4.3 Forecast data by using the AND(), IF(), and NPER() functions

On the Financing worksheet, use the NPER() function in B4 to determine the truck loan term in months given the existing loan amount and interest rate values in B2 and B3, a monthly payment made at the beginning of each month, and a future value of the loan of $0.00.

3.4.4 Calculate financial data by using the PMT() function

On the Financing worksheet, in cell B14, use the PMT() function with the data given to calculate the monthly payment amount for the loan.

3.4.2 Perform what-if analysis by using Goal Seek and Scenario Manager

On the Financing worksheet, use Goal Seek to set the monthly payment in cell B14 to ($500) by changing the loan amount for the market booth.

3.5.3 Validate formulas by using error checking rules

On the Summer Sales Scenarios worksheet, locate the formula error that was previously ignored and then fix the formula with Error Checking.

3.4.2 Perform what-if analysis by using Goal Seek and Scenario Manager

On the Summer Sales Scenarios worksheet, use the Scenario Manager to create three scenarios for August sales using the values in D3:D6: 1) a scenario named “Current” that uses the current data; 2) a scenario named “10% increase” in which sales are 10% more than the current data; and 3) a scenario named “10% decrease” in which sales are 10% less than the current data. Show the 10% increase Scenario, and then create a Scenario Summary using the total in E7 as the Result cells.

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

On the Revenue & Costs worksheet, create a Waterfall chart using the data available and set the Total Revenue, Total Costs, and Profit data points as totals.

1.2.4 Configure formula calculation options

☐ Change the Excel Calculation options to enable Automatic Workbook Calculation except for data tables. On the Projected Sales worksheet, change the value for Profit on a premium Farm Box (total) to $40 and the Profit on a regular Farm Box (each) to $30. Manually Calculate the worksheet to update the values in the data table in E4:F12. Change the Excel Calculation options to enable Automatic Workbook Calculations and then save and close the Project3\_datafile.xlsx workbook.

1.2.4 Configure formula calculation options

☐ In the 5-Year\_Projection.xlsx workbook, change the Excel Calculation options to enable Manual Workbook Calculation but don’t enable the option to Recalculate the workbook before saving. Enable iterative calculation, with a Maximum Iterations value of 4. On the 5-year projection worksheet, in C2, enter “=C4” and then manually calculate the worksheet to update the Expected sales in 2025 value. Save and close the workbook. Change the Excel Calculation options to enable Automatic Workbook Calculation and disable iterative calculation.

3.4.1 Summarize data from multiple ranges by using the Consolidate feature

In the FarmBox\_Sales\_2019-2021.xlsx workbook, on the Summary worksheet in cell A3, consolidate the data from the Sales 2019, Sales 2020, and Sales 2021 worksheets. Use the labels in the left column and create links to the source data.

1.2.3 Protect workbook structure

Protect the Structure of the FarmBox\_Sales 2019-2021 workbook without a password, then save and close the workbook.

2.1.2 Fill cells by using advanced Fill Series options

In the ProjectedSales.xlsx workbook, on the 2023 worksheet, starting with January in B2, fill the series of months through December. Create a Growth Series in B18:M18 that assumes the quantity sold for each product will increase cumulatively 8% every month starting in February. Save the file and leave it open.

1.1.3 Enable macros in a workbook

Adjust Excel settings for macros to Disable macros with notification. Save the ProjectedSales.xlsx workbook so you can save macros in the file.

3.6.1 Record simple macros

3.6.2 Name simple macros

In the ProjectedSales.xlsm workbook, select N3 and then record a macro named “MoneyTotal” that will apply the Accounting Number Format as well as bold and italic font formatting to any selected cell or range. Store the macro in the ProjectedSales.xlsm workbook and save the file.

3.6.3 Edit simple macros

Show the ribbon tab that contains Visual Basic tools. In the ProjectedSales.xlsm workbook, in the Visual Basic Editor, edit the MoneyTotal macro so the text is not italic. Run the macro in ProjectedSales.xlsm on the range N3:N15 and then save the file.

1.1.1 Copy macros between workbooks

Open ImportMacro.xlsm. In the Visual Basic Editor, copy the modColumnFormatting module that contains the ColumnTotals macro from VBAProject (ImportMacro.xlsm) to VBAProject (ProjectedSales.xlsm), and then in ProjectedSales.xlsm in the Sales Report worksheet, run the ColumnTotals macro on B16:N16. Save and close all files.

1.1.4 Manage workbook versions

Change Excel Options so the AutoRecover frequency is 1 minute. In the FarmersMarket\_Registration.xlsx workbook, turn on Version history and save a copy to OneDrive. On the Registration worksheet, delete the contents of A2. Leave the workbook open and close any other open Excel workbooks.

3.3.2 Calculate dates by using the WEEKDAY() and WORKDAY() functions

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

In the FarmersMarket\_Registration.xlsx workbook, on the Registration worksheet, enter a nested function in the Day of the week column to return the day of the week (for example, Saturday) using the dates in the Market opening date column and the data in the DaysData range.

3.3.2 Calculate dates by using the WEEKDAY() and WORKDAY() functions

In the FarmersMarket\_Registration.xlsx workbook, enter a function in the Register by: column that returns the date that is 25 working days before the market opening date in column C, using the holidays in the Holidays range, and then close the file. (If you aren’t using OneDrive, save and close the file.)

1.1.4 Manage workbook versions

Re-open the FarmersMarket\_Registration.xlsx workbook that is saved to your OneDrive. Also open the oldest version of the file from Version History. In the oldest version, copy the text in A2 and close the file. In the newest version, paste the clipboard contents in cell A24 and then share the file by copying a link that allows anyone with the link to view the file. Close all files.