



South Central College

OTEC 1822 Microsoft Excel

Course Outcome Summary

Course Information

Description This course prepares students to work with Microsoft Excel in a career setting or for personal use. It begins with the introduction of concepts such as creating, editing, and formatting worksheets in a uniform, attractive style. It includes inserting formulas, creating charts, and enhancing the display of worksheets of varying complexity. The course will move on to the advanced concepts and features of formatting, using functions, analyzing numerical data, and projecting outcomes to make informed decisions. Features of protecting workbooks, using macros, using pivot tables, and customizing the Excel environment are also included. Current communication needs will be met by including hyperlinks to external information, as well as importing, exporting, and sharing data. (Prerequisite: none)

Total Credits 4

Total Hours 64

Types of Instruction

Instruction Type

Lecture

Credits/Hours

4/64

Pre/Corequisites

None

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Prepare an Excel Workbook

Learning Objectives

Create, save, and print a workbook

Enter data in a workbook

- Use the SUM button
- Enter simple functions
- Use the fill handle to copy cell contents
- Apply cell styles
- Format cells in worksheets
- Create charts
- Preview and print worksheets
- Use the AutoCalculate feature
- Correct errors in worksheet

2. Apply Formulas, Functions, and Formatting in a Worksheet

Learning Objectives

- Use flash fill
- Enter formulas using the keyboard and point mode
- Apply the MAX, MIN, and AVERAGE functions
- Verify formulas using the Range Finder
- Apply themes to workbooks
- Apply date formats to cells or ranges
- Add conditional formatting
- Format columns and rows
- Use spellcheck on worksheets
- Change margins and headers in page layout view

3. Work with Large Worksheets, Create Charts, and Use What-If Analysis

Learning Objectives

- Rotate text in cells
- Copy, paste, insert, and delete cells
- Enter and format numbers and system dates
- Use absolute and mixed cell references in formulas
- Use the IF function to perform logical tests
- Create and format sparkline charts
- Change sparkline chart types and styles
- Create charts on separate chart sheets
- Use chart filters to display subsets of data in charts
- Change chart types and styles
- Freeze and unfreeze rows and columns
- Answer what-if questions
- Goal seek to answer what-if questions
- Use the Smart Lookup Insight
- Understand accessibility feature

4. Use and Create Financial Functions and Data Tables

Learning Objectives

- Assign names to cells
- Determine monthly payments of loans using the financial function PMT
- Use the financial functions PV (present value) and FV (future value)
- Create data tables to analyze data in worksheets
- Create amortization schedules
- Create and format outlines and borders
- Add pointers to data tables
- Analyze worksheet data
- Protect and unprotect cells in worksheets
- Hide and unhide worksheets and workbooks
- Use the formula checking features of Excel

5. Work with Multiple Worksheets and Workbooks

Learning Objectives

- Format consolidated worksheets
- Fill using a linear series

- Use date, time, and rounding functions
- Apply custom format codes
- Create new cell styles
- Copy worksheets
- Copy and paste data between workbooks
- Drill to add data to multiple worksheets at the same time
- Select and deselect sheet combinations
- Enter formulas that use 3-D cell references
- Format 3-D pie charts
- Save individual worksheets as separate workbook files
- View and hide multiple workbooks
- Consolidate data by linking separate workbooks

6. Create, Sort, and Query a Table

Learning Objectives

- Create and manipulate a table
- Delete duplicate records
- Add calculated columns to a table with structured references
- Use the VLOOKUP function to look up a value in a table
- Use icon sets with conditional formatting
- Insert a total row
- Sort a table based on one field or multiple fields
- Sort, query, and search a table using AutoFilter
- Remove filters
- Create criteria and extract ranges
- Apply database and statistical functions
- Use the MATCH and INDEX functions to look up a value in a table
- Display automatic subtotals
- Use outline features to group, hide, and unhide data
- Create a treemap chart

7. Create Templates, Import Data, Work with SmartArt, Images, and Screenshots

Learning Objectives

- Create and use a template
- Import data from a text file, an Access database, a webpage, and a Word document
- Transpose data while pasting it
- Convert text to columns
- Replicate formulas
- Use the Quick Analysis tool
- Find and replace data
- Insert and modify SmartArt graphics
- Apply text effects
- Insert hyperlinked screenshots

8. Create and PivotTables, PivotCharts, Slicers, and Trendlines

Learning Objectives

- Analyze worksheet data using trendlines
- Create PivotTable reports
- Apply filters to PivotTable reports
- Create PivotChart reports
- Apply filters to PivotChart reports
- Analyze worksheet data using PivotTable and PivotChart reports
- Create calculated fields
- Create slicers to filter PivotTable and PivotChart reports
- Analyze PivotTable and PivotChart reports using slicers

9. Edit PivotTables, PivotCharts, Slicers, and Trendlines

Learning Objectives

- Edit PivotTable reports

Edit PivotChart reports
Edit slicers

10. Use Formula Auditing, Data Validation, and Complex Problem Solving Processes

Learning Objectives

Use formula auditing techniques to analyze worksheets
Trace precedents and dependents
Use error checking to identify and correct errors
Add data validation rules to cells
Enable the Solver add-in
Use goal seeking to solve problems
Circle invalid data on worksheets
Use Solver to solve complex problems
Use the Scenario Manager to record and save sets of what-if assumptions
Create Scenario Summary reports
Create Scenario PivotTable reports

11. Perform Data Analysis with Power Tools

Learning Objectives

Activate Excel's power tools
Customize the ribbon and enable data analysis
Use the Get & Transform data commands
Create queries using Query Editor
Build PivotTables using Power Pivot
Explain data modeling
Create measures
View cube functions
Use Power View
Create tiles in a Power View report
Use 3D Maps
Explain Power BI
Create hyperlinks

12. Create and Execute Macros

Learning Objectives

Use the macro recorder to create macros
Edit macros
Execute macros

13. Use Visual Basic Applications (VBA), User Interfaces, and Collaboration Features in Excel

Learning Objectives

Add and configure worksheet form controls such as command buttons, option buttons, and check boxes
Record user input to another location on worksheets
Input Visual Basic for Applications (VBA) code and explain event-driven programs
Explain sharing and collaboration techniques
Use passwords to assign protected and unprotected status to a worksheet
Compare and merge workbooks
Use digital signatures on a workbooks
Insert, edit, delete, and review comments in workbooks
Manage tracked changes in shared workbooks
Format worksheet backgrounds
Enhance charts and sparklines
Save custom views of a worksheet

SCC Accessibility Statement

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and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-5847.

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