***UW-Milwaukee at Waukesha, College of General Studies***

**CGS CPS 107: Spreadsheet Concepts**

**Online** **Asynchronous**

**Credits:** 2

**Course Description:**

Introduces spreadsheet applications, functions and features using data tables, solver, and document review. Emphasis on formulas/functions, data analysis, managing workbooks, validating data, conditional formatting, data lookup, and PivotTables and charts. Will extensively prepare for Microsoft certifications in Excel and Excel Expert

**Textbook**

There is no required textbook as all information is in the following format: pdfs, videos, simulations, fact sheets, and review exams. All course materials are through TestOut software within the Canvas platform.

**Course Interaction**

Students will be working in an asynchronous environment. Students will be able to interact with other students via discussion posts or email within the Canvas shell. All assignments will be done through Canvas. If needed the instructor will offer open lab times on an as needed basis and will be available through email, teams, or zoom.

**Course Requirement/Time Investment:**

Students must complete all the required assignments that are assigned by their instructor. This is a self-paced asynchronous class; however, suggested timeframes for each unit will be provided within Canvas’ calendar. Students, on average, should spend the required amount of time designated for 2-credit online course (equivalent to 96 hours).

Access to the Internet is the only requirement for access to this course as course software is designed to work on Macs, PCs, and Chromebooks. There is not a required textbook.

**Important Dates Per Week:**

Course introductions complete and TestOut account created

Excel Lessons 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, and 3.1 complete

Excel Lessons 3.2, 3.3, 3.4, 4.1, and 4.2 complete

Excel Lessons 5.1, 5.2, 6.1, **6.2**, and 6.3 complete

Excel Lessons **6.4.1**, **6.4.2**, 7.1, 7.2, and 8.1 complete

Excel Lessons 8.2, 8.3, 9.1, 9.2, and 9.3 complete

Excel Lessons 9.4, 9.5, 9.6, 10.1, and 10.2 complete

Excel Lessons 10.3, 11.2, **11.3.1**, and **11.3.2** complete

Final Exam complete

**Technology Requirements:**

You will need access to the Internet. If you have any technical difficulties you may contact UWM Help Desk: (414) 229-4040, [helpdesk@it.uwm.edu](mailto:helpdesk@it.uwm.edu), or [GetTechHelp.uwm.edu](https://uwm.edu/technology/help/)

**Course Objectives:**

Upon completion of this course, students will be able to:

1. Construct and operate PivotTables and PivotCharts
2. Create recorded macros
3. Create summaries
4. Use goal seeking to determine values required for accurate results
5. Manipulate data lists using Outline, Autofilter and PivotTables
6. Using 3D referencing to merge data from multiple worksheets
7. Design templates after writing complex worksheets and workbooks
8. Work with data tables and scenario management
9. Utilize lookup and reference functions

**Grading Policies:**

Course grades will be determined based on a percentage of points earned in the course. Measures that will assist in assessing formative as well as summative student performance including, but may not be limited to, the following:

1. Formative assessments (class assignments/application labs)-60%
2. Unit Tests (projects/practice tests)-35%
3. Participation/Unit Completions-5%

**Grading Scale:**

93-100%= A 83-86%= B 73-76% = C 63-66% =D

90-92% = A- 80-82% = B- 70-72% = C- 60-62% = D-

87-89% = B+ 77-79% = C+ 67-69% = D+ 59% and lower = F

**Course Outline:**

**1.0 Course Overview**

**1.1: Excel and the Microsoft Office Suite**

1.1.1 The Microsoft Office Suite (2:26)

1.1.2 Introduction to Microsoft Excel (2:17)

1.1.3 Excel Tasks Overview

**1.2: Course Features**

1.2.1 Introduction to TestOut's Microsoft Excel® Course (3:08)

1.2.2 Course Overview

1.2.3 Course Objectives

1.2.4 Tips for Mac Users

1.2.5 Using the Simulated Labs

1.2.6 Keyboard Shortcuts in Labs

1.2.7 Tips for Chromebook Users

**2.0 Common Office Features**

**2.1: Getting Started with Office**

2.1.1 Introduction to Office Applications (2:23)

2.1.2 Microsoft Office Versions (2:20)

2.1.3 Learning Office Applications (4:24)

2.1.4 The Ribbon (3:01)

2.1.5 Beyond the Ribbon (4:18)

2.1.6 Backstage View Options (3:38)

2.1.7 Common Office Application Features

2.1.8 Desktop vs. Web Applications

2.1.9 Skills Lab: Get Started with Office

2.1.10 Challenge Lab: Get Started with Office

**2.2: Customizing Views and Options**

2.2.1 Document Views (3:23)

2.2.2 Customizing Toolbars and Ribbons (3:20)

2.2.3 Customization Facts

2.2.4 Skills Lab: Customize Views and Options

2.2.5 Challenge Lab: Customize Views and Options

**2.3: Printing Files**

2.3.1 Printing Options in Office Applications (4:37)

2.3.2 Office Printing Facts

2.3.3 Skills Lab: Print Files

2.3.4 Challenge Lab: Print Files

**2.4: Navigating Files**

2.4.1 Navigating Through a Word Document (4:24)

2.4.2 Navigating Through an Excel Workbook (4:09)

2.4.3 Navigation Facts

2.4.4 Skills Lab: Navigate Files

2.4.5 Challenge Lab: Navigate Files

**2.5: Working with Objects**

2.5.1 Formatting Images (4:49)

2.5.2 Formatting Shapes (3:58)

2.5.3 Object Formatting Facts

2.5.4 Skills Lab: Work with Objects

2.5.5 Challenge Lab: Work with Objects

**2.6: Using Office Collaboration Features**

2.6.1 Track Changes and Comments (3:51)

2.6.2 Combining Revisions (4:02)

2.6.3 Distributing Files (4:27)

2.6.4 Collaboration Facts

2.6.5 Skills Lab: Use Collaboration Features

2.6.6 Challenge Lab: Use Collaboration Features

2.6.7 Collaboration Tips

2.6.8 Applied Lab: Prepare a Business Memo for Distribution

2.6.9 Applied Lab: Prepare an Online Resume

**3.0 Excel Basics**

**3.1: Creating and Managing Workbooks**

3.1.1 Spreadsheet Basics (3:26)

3.1.2 Worksheet Management (1:51)

3.1.3 Templates and Themes (1:57)

3.1.4 External Data (2:45)

3.1.5 Workbook Management Facts

3.1.6 Skills Lab: Create and Manage Workbooks

3.1.7 Challenge Lab: Create and Manage Workbooks

3.1.8 Workbook Management Tips

3.1.9 Applied Lab: Organize Budget Worksheets

3.1.10 Applied Lab: Import & Organize Research Data

**3.2: Organizing and Entering Data**

3.2.1 Deleting and Clearing Cells (1:59)

3.2.2 Copy and Paste Options (3:42)

3.2.3 Large Data Sets (4:04)

3.2.4 Data Entry Facts

3.2.5 Skills Lab: Organize and Enter Data

3.2.6 Challenge Lab: Organize and Enter Data

3.2.7 Data Entry Tips

3.2.8 Applied Lab: Enter Survey Results Data

3.2.9 Applied Lab: Organize Sales Data

**3.3: Changing Properties and Printing Worksheets**

3.3.1 Data Protection (3:05)

3.3.2 Data Validation (3:21)

3.3.3 Excel Printing Tips (3:17)

3.3.4 Worksheet Printing Facts

3.3.5 Skills Lab: Change Properties and Print Worksheets

3.3.6 Challenge Lab: Change Properties and Print Worksheets

3.3.7 Worksheet Printing Tips

3.3.8 Applied Lab: Prepare and Print Sales Data

3.3.9 Applied Lab: Protect a Budget Worksheet

**3.4: Formatting Cells**

3.4.1 Number Formats (3:15)

3.4.2 Cell Formats (4:18)

3.4.3 Cell Styles and Colors (2:06)

3.4.4 Cell Borders (2:31)

3.4.5 Cell Formatting Facts

3.4.6 Skills Lab: Format Cells

3.4.7 Challenge Lab: Format Cells

3.4.8 Cell Formatting Tips

3.4.9 Applied Lab: Camping Equipment Store

3.4.10 Applied Lab: Format a Directory

**4.0 Formulas and Functions**

**4.1: Entering Simple Formulas**

4.1.1 Formulas and Functions (3:12)

4.1.2 AutoFill Options (3:39)

4.1.3 Add and Average (3:58)

4.1.4 Text Functions (3:23)

4.1.5 Concatenating in Excel (4:09)

4.1.6 Formula Facts

4.1.7 Skills Lab: Enter Simple Formulas

4.1.8 Challenge Lab: Enter Simple Formulas

4.1.9 Formula Tips

4.1.10 Applied Lab: Cheese Shop

4.1.11 Applied Lab: Gradebook

**4.2: Using Advanced Functions**

4.2.1 Relative and Absolute References (3:12)

4.2.2 Advanced Cell References (5:04)

4.2.3 Named Cells and Ranges (2:24)

4.2.4 The IF Function (3:53)

4.2.5 Logical Functions (2:55)

4.2.6 Excel Error Messages (2:43)

4.2.7 Advanced Function Facts

4.2.8 Skills Lab: Use Advanced Functions

4.2.9 Challenge Lab: Use Advanced Functions

4.2.10 Advanced Function Tips

4.2.11 Applied Lab: County Fair

4.2.12 Applied Lab: Toy Company

**5.0 Simple Data Analysis**

**5.1: Displaying Data in Charts**

5.1.1 Chart Formatting (2:38)

5.1.2 Chart Types (2:23)

5.1.3 Chart Facts

5.1.4 Skills Lab: Display Data in Charts

5.1.5 Challenge Lab: Display Data in Charts

5.1.6 Chart Tips

5.1.7 Applied Lab: Stock Portfolio

5.1.8 Applied Lab: Election Results

**5.2: Organizing Data in Tables**

5.2.1 Conditional Formatting (2:38)

5.2.2 Excel Tables (2:31)

5.2.3 Table Customization (2:40)

5.2.4 Using Formulas in Tables (3:34)

5.2.5 Excel Table Facts

5.2.6 Skills Lab: Organize Data in Tables

5.2.7 Challenge Lab: Organize Data in Tables

5.2.8 Excel Table Tips

5.2.9 Applied Lab: Pizza Chain

5.2.10 Applied Lab: Baseball Statistics

**6.0 Excel Associate Practice Exams**

**6.1: Excel Live Projects**

6.1.1 How to Use Excel Live Projects (3:13)

6.1.2. Installing the Optional Task Guide in Excel

6.1.3 Additional Tips for Excel Live Projects

6.1.4 Excel Project: Modify an Expense Report

6.1.5 Excel Project: Analyze Sales Data

6.1.6 Excel Project: Analyze Sales Transactions

**6.2: Preparing for MOS Associate Certification**

6.2.1 Preparing for the MOS Exams (2:49)

6.2.2 Performing Unfamilar Tasks (7:17)

6.2.3 Using TestOut MOS Practice Exams (4:16)

6.2.4 MOS Exam Objectives

6.2.5 Taking an MOS Exam

**6.3: Domain Practice Labs: Excel Associate**

6.3.1 Manage Worksheets and Workbooks

6.3.2 Manage Data Cells and Ranges

6.3.3 Manage Tables and Table Data

6.3.4 Perform Operations by using Formulas and Functions

6.3.5 Manage Charts

**6.4: Practice Exams: Excel Associate**

6.4.1 Microsoft Excel Associate Practice – Form A

6.4.2 Microsoft Excel Associate Practice – Form B

**7.0 Advanced Workbook Options and Settings**

**7.1: Managing Workbooks**

7.1.1 Configuring AutoSave and AutoRecover (1:53)

7.1.2 Referencing Data in Other Workbooks (3:28)

7.1.3 Configuring and Using Language-Specific Features (2:31)

7.1.4 Manage Workbooks Facts

7.1.5 Skills Lab: Manage Workbooks

7.1.6 Challenge Lab: Manage Workbooks

7.1.7 Manage Workbooks Tips

7.1.8 Applied Lab: Manage IT Expenses

7.1.9 Applied Lab: Manage Exchange Rates

**7.2: Preparing Workbooks for Collaboration**

7.2.1 Protecting Cell Ranges, Worksheets, and Workbooks (4:36)

7.2.2 Configuring Formula Calculation Options (4:46)

7.2.3 Managing Comments (3:41)

7.2.4 Prepare Workbooks for Collaboration Facts

7.2.5 Skills Lab: Prepare Workbooks for Collaboration

7.2.6 Challenge Lab: Prepare Workbooks for Collaboration

7.2.7 Prepare Workbooks for Collaboration Tips

7.2.8 Applied Lab: Protect Budget Summary

7.2.9 Applied Lab: Protect Monthly Financial Report

**8.0 Advanced Data Formatting**

**8.1: Filling Cells Based on Existing Data**

8.1.1 Flash Fill and Advanced Fill Series Options (8:40)

8.1.2 Fill Cells Based on Existing Data Facts

8.1.3 Skills Lab: Fill Cells Based on Existing Data

8.1.4 Challenge Lab: Fill Cells Based on Existing Data

8.1.5 Fill Cells Based on Existing Data Tips

8.1.6 Applied Lab: Fill Event Data

8.1.7 Applied Lab: Fill Database Data

**8.2: Formatting and Validating Data**

8.2.1 Custom Number Formats (6:49)

8.2.2 Configuring Data Validation (7:58)

8.2.3 Using Outlines to Create Groups and Subtotals (2:46)

8.2.4 Removing Duplicate Records (1:55)

8.2.5 Format and Validate Data Facts

8.2.6 Skills Lab: Format and Validate Data

8.2.7 Challenge Lab: Format and Validate Data

8.2.8 Format and Validate Data Tips

8.2.9 Applied Lab: Format and Validate Vendor Scorecard

8.2.10 Applied Lab: Format and Validate Journal Entries

**8.3: Advanced Conditional Formatting and Filtering**

8.3.1 Boolean Operators (4:03)

8.3.2 Using Boolean Logic in Excel (7:26)

8.3.3 Custom Conditional Formatting Rules (3:04)

8.3.4 Conditional Formatting Rules That Use Formulas (4:24)

8.3.5 Apply Advanced Conditional Formatting and Filtering Facts

8.3.6 Skills Lab: Apply Advanced Conditional Formatting

8.3.7 Challenge Lab: Apply Advanced Conditional Formatting

8.3.8 Apply Advanced Conditional Formatting and Filtering Tips

8.3.9 Applied Lab: Format Client Data

8.3.10 Applied Lab: Format Property Data

**9.0 Advanced Formulas and Macros**

**9.1: Performing Logical Operations in Formulas**

9.1.1 Logical Functions and Nested Functions (5:14)

9.1.2 Logical Operations with Mathematical Functions (8:28)

9.1.3 Perform Logical Operations in Formulas Facts

9.1.4 Skills Lab: Perform Logical Operations in Formulas

9.1.5 Challenge Lab: Perform Logical Operations in Formulas

9.1.6 Perform Logical Operations in Formulas Tips

9.1.7 Applied Lab: Perform Logical Operations on Web Orders

9.1.8 Applied Lab: Perform Logical Operations on Payroll Data

**9.2: Looking Up Data by Using Functions**

9.2.1 The VLOOKUP and HLOOKUP Functions (3:47)

9.2.2 The MATCH and INDEX Functions (4:07)

9.2.3 Look Up Data by Using Functions Facts

9.2.4 Skills Lab: Look Up Data by Using Functions

9.2.5 Challenge Lab: Look Up Data by Using Functions

9.2.6 Look Up Data by Using Functions Tips

9.2.7 Applied Lab: Look Up Inventory Data

9.2.8 Applied Lab: Look Up Data Functions Training

**9.3: Using Advanced Date and Time Functions**

9.3.1 Date and Time Functions (6:15)

9.3.2 Use Advanced Date and Time Functions Facts

9.3.3 Skills Lab: Use Advanced Date and Time Functions

9.3.4 Challenge Lab: Use Advanced Date and Time Functions

9.3.5 Use Advanced Date and Time Functions Tips

9.3.6 Applied Lab: Use Advanced Date and Time Functions on Project Timeline

9.3.7 Applied Lab: Use Advanced Date and Time Functions in Project Planning

**9.4: Performing Data Analysis**

9.4.1 Summarizing Data from Multiple Ranges (6:37)

9.4.2 Performing What-If Analysis (6:38)

9.4.3 Common Financial Terminology (4:08)

9.4.4 Calculating Financial Data (6:30)

9.4.5 Perform Data Analysis Facts

9.4.6 Skills Lab: Perform Data Analysis

9.4.7 Challenge Lab: Perform Data Analysis

9.4.8 Perform Data Analysis Tips

9.4.9 Applied Lab: Analyze and Consolidate Data

9.4.10 Applied Lab: Analyze Different Scenarios

**9.5: Troubleshooting Formulas**

9.5.1 Tracing Precedence and Dependence (3:34)

9.5.2 The Watch Window (2:28)

9.5.3 Errors and Error Checking (3:27)

9.5.4 Evaluating Formulas (3:09)

9.5.5 Troubleshoot Formulas Facts

9.5.6 Troubleshoot Formulas Tips

**9.6: Creating and Modifying Simple Macros**

9.6.1 Recording and Running Simple Macros (4:01)

9.6.2 Enabling and Disabling Macros (2:27)

9.6.3 Copying Macros Between Workbooks (3:51)

9.6.4 Create and Modify Simple Macros Facts

9.6.5 Skills Lab: Create and Modify Simple Macros

9.6.6 Challenge Lab: Create and Modify Simple Macros

9.6.7 Create and Modify Simple Macros Tips

9.6.8 Applied Lab: Practice Creating and Configuring Macros

9.6.9 Applied Lab: Create and Run a Date Insertion Macro

**10. Advanced Charts and Tables**

**10.1: Creating and Modifying Advanced Charts**

10.1.1 Selecting Advanced Chart Types (4:35)

10.1.2 Advanced Chart Formatting (6:20)

10.1.3 Dual Axis Charts (2:44)

10.1.4 Create and Modify Advanced Charts Facts

10.1.5 Skills Lab: Create and Modify Advanced Charts

10.1.6 Challenge Lab: Create and Modify Advanced Charts

10.1.7 Create and Modify Advanced Charts Tips

10.1.8 Applied Lab: Customer Service Charts

10.1.9 Applied Lab: Sales Conference Charts

**10.2: Creating and Modifying PivotTables**

10.2.1 Introduction to PivotTables (4:18)

10.2.2 Advanced PivotTable Features (3:27)

10.2.3 Calculated Fields in PivotTables (3:23)

10.2.4 Create and Modify PivotTables Facts

10.2.5 Skills Lab: Create and Modify PivotTables

10.2.6 Challenge Lab: Create and Modify PivotTables

10.2.7 Create and Modify PivotTables Tips

10.2.8 Applied Lab: Hardware Disposal Data Analysis

10.2.9 Applied Lab: Product Data Analysis

**10.3: Creating and Modifying PivotCharts**

10.3.1 Creating and Manipulating PivotCharts (1:49)

10.3.2 Drilling Down into PivotChart Details (2:13)

10.3.3 Create and Modify PivotCharts Facts

10.3.4 Skills Lab: Create and Modify PivotCharts

10.3.5 Challenge Lab: Create and Modify PivotCharts

10.3.6 Create and Modify PivotCharts Tips

10.3.7 Applied Lab: PivotCharts for Project Data

10.3.8 Applied Lab: PivotCharts for Gross Profit

**11.0 Excel Expert Practice Exams**

**11.1: Preparing for MOS Expert Certification**

11.1.1 Preparing for the MOS Exams (2:49)

11.1.2 Performing Unfamiliar Tasks (7:17)

11.1.3 Using TestOut MOS Practice Exams (4:16)

11.1.4 MOS Exam Objectives

11.1.5 Taking an MOS Exam

**11.2: Domain Practice Labs: Excel Expert**

11.2.1 Manage Workbook Options and Settings

11.2.2 Manage and Format Data

11.2.3 Create Advanced Formulas and Macros

11.2.4 Manage Advanced Charts and Tables

**11.3: Practice Exams: Excel Expert**

11.3.1 Microsoft Excel 6: Expert Practice – Form A

11.3.2 Microsoft Excel Expert Practice – Form B

**MOS EXCEL ASSOCIATE Certification is Available**

**MOS EXCEL EXPERT Certification is Available**

**Instructor statement of support:** If there is anything I can do in order to help you succeed in the course, please do not hesitate to reach out!