GBUS 204 Advanced Excel

Credit Hours: 3

Scheduled hours per week
Lecture: # 3
Lab: #
Other: e-course

Catalog Course Description: Using Microsoft Excel, students are taught Excel advanced spreadsheet formatting. Topics include advanced formulas and logical functions, mathematical computations, data analysis, lookups, scenarios, goal seek, chart presentations, pivot tables and charts, data imports, exporting, and linking multiple workbooks, with an emphasis on critical thinking, problem solving, and decision making for marketing, finance, accounting, economics, and management.

Prerequisites: CS 101

Corequisites: None

Course learning Outcomes:

Students should be able to:

Navigate, manipulate, explore, and analyze numeric data using Excel worksheets in workbooks with varying complexity.

Create Excel Templates worksheets.

Create Excel format tools to enhance the appearance of a worksheet through formatting tools, styles, and themes.

Analyze advanced Excel Functions for advanced math functions, trace and fix formula errors, analysis tools and pivot tables and pivot charts, filters, sorts, collaborating with workgroups (sharing workbooks), and importing and exporting data.

Analyze, view, record macros, and use the Visual Basic Editor.

Apply document design and presentation through the use of charts, sorting, bitmapped graphics, and clip art.

Apply strategies for merging and integrating source data from different applications, including the Internet, the commands for linking objects, and embedding files.

Topics to be studied:

Preparing and Formatting a Worksheet (Core)

Preparing and Formatting a Workbook
Identify the various elements of an Excel workbook
Create, save, and print a workbook
Enter data in a workbook
Edit data in a workbook
Insert formula using the AutoSum button
Apply basic formatting to cells in a workbook
Use the Help feature

Formatting an Excel Worksheet
Change column widths
Change row heights
Insert row and columns in a worksheet
Delete cells, rows, and columns in a worksheet
Clear data in cells
Apply formatting to data in cells
Apply formatting to selected data using the Mini toolbar
Preview a worksheet
Apply a theme and customize the theme font and color
Format numbers
Repeat the last action

Inserting Formulas in a Worksheet
Write formulas with mathematical operators
Types a formula in the Formula bar
Copy a formula
Use the Insert Function feature to insert a formula in a cell
Write formulas with the AVERAGE, MAX, MIN, COUNT, PMT, FV, DATE, NOW, and IF functions
Create an absolute and mixed cell reference

Enhancing a Worksheet
Change worksheet margins
Center a worksheet horizontally and vertically on the page
Insert a page break in a worksheet
Print gridlines and row and column headings
Set and clear a print area
Insert headers and footers
Customize print jobs
Complete a spelling check on a worksheet
Find and replace data and cell formatting in a worksheet
Sort data in cells in ascending and descending order
Filter a list using AutoFilter

Automate formatting with Format Painter
Hide and unhide rows and columns

Moving Data within and between Workbooks
Create a workbook with multiple worksheets
Move, copy, and paste cells within a worksheet
Split a worksheet into windows and freeze panes
Name a range of cells and use a range in a formula
Open multiple workbooks
Arrange, size, and move workbooks
Copy and paste data between workbooks
Link data between worksheets

Creating a Chart in Excel
Create a chart with data in an Excel worksheet
Size, move, and delete charts
Print a selected chart and print a worksheet containing a chart
Choose a chart style, layout, and formatting
Change chart location
Insert, move, size, and delete chart labels, shapes, and pictures

Advanced Formatting Techniques
Apply conditional formatting by entering parameters for a rule
Apply conditional formatting using a predefined rule
Create and apply a new rule for conditional formatting
Edit, delete and clear conditional formatting
Apply conditional formatting using an icon set, data bars, and color scale
Apply conditional formatting using a formula
Apply fraction and scientific formatting
Apply a special format for a number
Create a custom number format
Apply wrap text and shrink to fit text control options
Filter a worksheet using a custom AutoFilter
Filter and sort a worksheet using conditional formatting or cell attributes

Working with Tables and Data Features
Create a table in a worksheet
Expand a table to include new rows and columns
Add a calculated column in a table
Format a table by applying table styles and table style options
Add a total row to a table and add formulas to total cells
Sort and filter a table
Split contents of a cell into separate columns
Remove duplicate records
Restrict data entry by creating validation criteria
Convert a table to a normal range
Create subtotals in groups of related data
Group and ungroup data

Using Data Analysis Features
Switch data arranged in columns to rows and vice versa
Perform a mathematical operation during a paste routine
Populate a cell using Goal Seek
Save and display various worksheet models using Scenario Manager
Create a scenario summary report
Create a one-variable data table to analyze various outcomes
Create a two-variable data table to analyze various outcomes
View relationships between cells in formulas
Identify Excel error codes and troubleshoot a formula using

Maintaining Workbooks
Create and rename a folder
Delete workbooks and folders
Copy and move workbooks within and between folders
Copy, move, and rename worksheets within a workbook
Maintain consistent formatting with styles
Insert, modify, and remove hyperlinks
Create financial forms using templates

Adding Visual Interest to Workbooks
Insert symbols and special characters
Insert, size, move, and format a clip art image
Insert a screenshot
Draw, format, and copy shapes
Insert, size, move, and format a picture image
Insert, format, and type text in a text box
Insert a picture image as a watermark
Insert and format SmartArt diagrams
Insert and format WordArt

Advanced Functions and Formulas
Create and use named ranges in formulas
Use functions COUNTA, COUNTIF, COUNTIFS
Use functions AVERAGEIF, AVERAGEIFS
Use functions SUMIF, SUMIFS
Edit a named range
Rename and delete a named range
Look up data using the lookup functions VLOOKUP and HLOOKUP
Analyze loan payments using PPMT
Use conditional logic functions IF, AND, and OR
Modify text using the text functions PROPER, UPPER, LOWER, and SUBSTITUTE

Summarizing and Consolidating Data
Summarize data by creating formulas with range names that reference other worksheets
Modify the range assigned to a range name
Summarize data by creating 3-D formulas
Create formulas that link to source worksheets | workbooks
Edit a link to a source workbook
Break a link to an external reference
Use the Consolidate feature to summarize data in multiple worksheets
Create, edit, and format a PivotTable
Filter a PivotTable using Slicers
Create and format a PivotChart
Create and format Sparklines

Protecting and Sharing Workbooks
Add information to a workbook's properties
Add comments containing additional information or other notes to the reader
Share a workbook with other people and view other users who have the shared workbook open at the same time
Edit a shared workbook and resolve conflicts with changes
Print a history of changes made to a shared workbook
Stop sharing a workbook
Protect cells within a worksheet to prevent changes
Add a password to open a workbook

formula auditing tools
Circle invalid data
Use the Watch Window to track a value

Automating Repetitive Tasks and Customizing Excel
Record and run and edit a macro
Save a workbook containing macros as a macro-enabled workbook
Create a macro that is run using a shortcut key combination
Pin and unpin a frequently used file to Recent Documents list
Add and remove buttons for frequently-used commands to the Quick Access toolbar
Hide the ribbon to increase space in the work area
Customize the display options for Excel
Customize the ribbon by creating tabs and adding buttons
Create and apply custom views
Create and use a template
Customize save options for Auto Recover files

Track changes made to a workbook
Modify and resolve tracked changes

Importing, Exporting, and Distributing Data
Import data from an Access table, a website, and a text file
Append data from an Excel worksheet to an Access table
Embed and link data in an Excel worksheet to a Word document
Copy and paste data in an Excel worksheet to a PowerPoint presentation
Export data as a text file
Scan and remove private or confidential information
Mark a workbook as final
Check a workbook for features incompatible with earlier versions of Excel
Save an Excel worksheet as a PDF or XPS file
Save an Excel worksheet as a web page
Send an Excel worksheet via an email message
Save an Excel worksheet to a SkyDrive

Specific Functions:
AutoSum
Absolute References (Turning Off Relative References)
Future Value (FV) Function
Payment (PMT)
Average, Count, Max, Min, Mode
IF Function
Nested IF Functions
AND Function
OR Function
Combination (AND, OR, and IF Functions)
VLOOKUP Function | HLOOKUP Function

SUMIF Function
COUNTA and COUNTIF
AVERAGEIF
Financial Assumptions
Cash Analysis (NPV Function)
TODAY Function
YEAR Function
MONTH Function
DATE and DAY Functions
CONCATENATE Function
SEARCH, LEFT, LEN, and MID Functions
ISNUMBER and ISTEXT Functions

Students should be able to:

Demonstrate an understanding of the various components of Excel to create and edit spreadsheets of varying complexity.

Analyze numerical data and project outcomes to make informed decisions.

Create, Plan, research revise, and publish worksheets and workbooks to meet specific communication needs.

Understand the basic financial statements, purposes, and use needed by business decision makers.

Understand ethical values and behavior for problem solving and decision making.

Analyze the impact of functions and formulas on business transactions and financial reports using Excel .

Understand global business environment.

Relationship of Course to Program or Discipline Learning Outcomes:

Associate of Applied Science in Business Technology (BTEC) Program Outcomes:	
At the conclusion of the AAS in Business Technology program, students will:	
Communicate effectively and professionally both orally and in writing within the context of the business world in an administrative role.	X
Demonstrate competence in the use of electronic tools: hardware and software-to research, manage, and present information.	X
Utilize word processing software such as MS Word to design professional quality documents	

(reports, memos, etc.), including the ability to import and appropriately integrate tables and graphics.	
Utilize spreadsheet software such as MS Excel to manipulate and analyze data, including basic operations on cells and cell ranges, formulas and functions, filters, sorts, and develop graphs and charts.	X
Utilize presentation software such as MS PowerPoint to present information in an appropriate and sophisticated manner, including design templates, color and animation schemes, custom animation, and importation of charts, tables, and graphics.	
Demonstrate the ability to work ethically, effectively, and respectfully with people of diverse backgrounds and with people who have different roles, social affiliations, and personalities.	
Be prepared for admission to the Bachelor of Applied Science in Business Administration with a Business Information Technology (BIT) concentration at WVU at Parkersburg.	

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	X
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
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Special projects or requirements of the course:

Hands-on Excel Applications
Online Assessment Excel Theory Tests

Additional information: BTEC courses require a C or better for Certificates, Associate's Degree, and BASBA Major Concentration.

Prepared by: Carol C. Thomas, Professor

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