

GBUS 304 Advanced Excel

Credit Hours: 3**Scheduled hours per week**

Lecture: #

Lab: #

Other: Hybrid or 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. Additional “advanced hands-on projects and tests” are required.

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 enhance 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
 Automate formatting with Format Painter

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

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, Formulas, and Data Management

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 | sort a worksheet: 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 formula auditing tools

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: VLOOKUP and HLOOKUP functions
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 a source worksheets or 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
Track changes made to a workbook

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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 the 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 a custom tab and adding buttons

Create and apply custom views

Create and use a template

Customize save options for AutoRecover files

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

Advanced 304 Students Required Assessments

Performance Assessments

Create Sales Bonuses Workbook

Format Equipment Purchase Plan Workbook

Format Accounts Due Workbook

Format First Quarter Sales Workbook

Format Weekly Payroll Workbook

Format Customer Sales Analysis Workbook

Format Invoices Workbook

Performance Assessments

Conditionally Format and Filter a Help Desk Worksheet

Use Conditional Logic Formulas in a Help Desk Worksheet

Use Table and Data Management Features in a Help Desk Worksheet

Add Subtotals and Outline a Help Desk Worksheet

Use Financial and Text Functions to Analyze Data for a Project

Analyze Sales Using a PivotTable, a PivotChart, and Sparklines

Link to an External Data Source and Calculate Distributor

Payments

Uniform Course Syllabus (UCS)

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 from a workbook

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

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

Performance Assessments

Copy and Paste Data | Insert WordArt

Manage Multiple Worksheets in a Projected Earnings Workbook

Create Charts in Worksheets in a Sales Totals Workbook

Create and Format a Line Chart | Pie Chart

Insert a Text Box | Save a Travel Workbook as a Web Page

Insert Clip Art Image and SmartArt Diagram in a Projected

Quotas Workbook

Insert Symbol, Clip Art, and Comments in a Sales Workbook

Insert and Format a Shape in a Budget Workbook

Performance Assessments

Use Goal Seek and Scenario Manager to Calculate Investment Proposals

Calculate Investment Outcomes for a Portfolio Using a Two-Variable Data Table

Solve an Error and Check for Accuracy in Investment

Commission Formulas

Document and Share a Workbook and Manage Changes in an Investment Portfolio Worksheet

Insert Comments and Protect a Confidential Investment Portfolio Workbook

Automate and Customize an Investment Portfolio Workbook

Create and Use an Investment Planner Template

Export a Chart and Prepare and Distribute an Investment

Portfolio Worksheet

Bachelors of Applied Science in Business Administration	
(BASBA) Program Outcomes	
<i>Business Information Technology concentration (BIT):</i>	
Communicate effectively and professionally both orally and in writing including complex report generation.	
Demonstrate and integrate the use functional areas of business including accounting, economics, finance, global business, management, marketing and the legal environment of business.	X
Demonstrate the ability to work ethically, effectively, and respectfully with people of diverse backgrounds and with people whom have different roles, social affiliations, and personalities.	
Use accounting software such as QuickBooks to manage accounting functions for statement preparation by accountants or external analysts.	X
Build on the competencies developed in the AAS in Business Technology to demonstrate competence in the use of electronic tools –hardware and software --to research, manage, and present information including word processing, spreadsheet, and presentation software.	X
Demonstrate and integrate the use functional areas of business including accounting, finance, management, and marketing in a professional business or administrative office.	X

Bachelors of Science in Business Administration	
(BSBA) Program Outcomes	
<i>General Business Specialization (GenBus):</i>	
Communicate effectively and professionally both orally and in writing including complex report generation.	
Demonstrate the use of quantitative skills in analysis of complex business decisions with a global perspective.	X
Demonstrate and integrate the use functional areas of business including accounting, economics, finance, global business, management, marketing and the legal environment of business.	
Demonstrate the ability to work ethically, effectively, and respectfully with people of diverse backgrounds and with people whom have different roles, social affiliations, and personalities.	
Demonstrate the ability to solve complex business and organizational problems using programmed and non-programmed decision techniques using logical reasoning for evaluating information and data.	X
Apply best practices in management of functional areas including Human Resources, development and analysis of organizational design and structure, and leadership techniques to manage a team or department.	
Demonstrate an understanding of complex marketing concepts including developing and deploying research studies for data collection and analysis, creating and deploying both B2C and B2B functions including procurement, supply chain management, and other marketing analysis.	X
Be admission-ready for a Master of Business Administration program if desired.	

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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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.

Analyze 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.

Special projects or requirements of the course:

Hands-on Excel Applications
 Online Assessment Excel Theory Tests

Excel Advanced Performance Assessments Applications

Additional information:

None

Prepared by:

Carol C. Thomas, Professor

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