

Wyoming Department of Education Required Virtual Education Course Syllabus

Niobrara County School District # 1

Program Name	Wyoming Virtual Academy	Content Area	VE
Course ID	D-TCH-122V1-CEN	Grade Level	9-12
Course Name	CEN Excel 2016	# of Credits	0.5
SCED Code	10005G0.5011	Curriculum Type	K12 Inc

COURSE DESCRIPTION

Using a project based approach, students are introduced to Microsoft® Excel® 2016. This course walks students through basic to advanced features by experimenting with spreadsheet creation. Types of activities include, creating worksheets, charts, formulas, functions, what-if analysis, and financial functions. Students work through these hands on projects to master skills in commonly used features of spreadsheets.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
CV12.2.1	College and career-ready students communicate clearly, effectively, and with reason.
CV12.2.2	College and career-ready students identify and model integrity, ethical leadership and effective management skills.
CV12.2.4	College and career-ready students apply safe, legal, and responsible use of information and technology as appropriate to the task.
CV12.3.1	College and career-ready students identify and define authentic problems and significant questions for investigation.
CV12.3.2	College and career-ready students identify trends, forecast possibilities, and explore complex systems and issues.
CV12.3.3	College and career-ready students employ valid and reliable research strategies and apply prior knowledge to solve a problem or complete a project.
CV12.4.2	College and career-ready students determine the meaning of symbols, key terms, and other content-specific words and phrases as they are used in technical context. (*Adapted from CCSS RL.9.11)
CV12.4.3	College and career-ready students acquire, manipulate, analyze, diagnose, and/or report information, using the appropriate technology.
CV12.4.4	College and career-ready students precisely follow a complex multistep procedure when performing technical tasks. (*Adapted from CCSS RL.9.3)
CV12.5.1	College and career-ready students manage resources to develop, analyze, and implement systems and applications.
CV12.5.2	College and career-ready students productively complete tasks taking constraints, priorities and resources into account.

CV12.5.3	College and career-ready students safely and ethically use current industry-standard tools and emerging technologies.	
SCOPE AND SEQUENCE		
UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
Unit 1: Creating a Worksheet and a Chart	CV12.2.1	<ul style="list-style-type: none">Describe the Excel worksheetEnter text and numbersUse the Sum button to sum a range of cellsEnter a simple functionCopy the contents of a cell to a range of cells using the fill handleApply cell stylesFormat cells in a worksheetCreate a 3-D pie chartChange a worksheet name and sheet tab colorChange document propertiesPreview and print a worksheetUse the AutoCalculate area to display statisticsCorrect errors on a worksheet
	CV12.2.2	
	CV12.2.4	
	CV12.3.1	
	CV12.3.2	
	CV12.3.3	
	CV12.4.2	
	CV12.4.3	
	CV12.4.4	
	CV12.5.1	
	CV12.5.2	
	CV12.5.3	
Unit 2: Formulas, Functions, and Formatting	CV12.2.2	<ul style="list-style-type: none">Use Flash FillEnter formulas using the keyboardEnter formulas using Point modeApply the MAX, MIN, and AVERAGE functionsVerify a formula using Range FinderApply a theme to a workbookApply a date format to a cell or rangeAdd conditional formatting to cellsChange column width and row heightCheck the spelling on a worksheetChange margins and headers in Page Layout viewPreview and print versions and sections of a worksheet
	CV12.2.4	
	CV12.3.1	
	CV12.3.2	
	CV12.3.3	
	CV12.4.2	
	CV12.4.3	
	CV12.4.4	
	CV12.5.1	
	CV12.5.2	
	CV12.5.3	
	Unit 3: Working with Large Worksheets, Charting, and What-If Analysis	
CV12.2.4		
CV12.3.1		
CV12.3.2		
CV12.3.3		
CV12.4.2		
CV12.4.3		
CV12.4.4		
CV12.5.1		
CV12.5.2		
CV12.5.3		

Unit 4: Financial Functions, Data Table, and Amortization Schedules	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Assign a name to a cell and refer to the cell in a formula using the assigned name • Determine the monthly payment of a loan using the financial function PMT • Understand the financial functions PV (present value) and FV (future value) • Create a data table to analyze data in a worksheet • Create an amortization schedule • Control the color and thickness of outlines and borders • Add a pointer to a data table • Analyze worksheet data by changing values • Use range names and print sections of a worksheet • Set print options • Protect and unprotect cells in a worksheet • Hide and unhide worksheets and workbooks • Use the formula checking features of Excel
Chapter 5: Working with Multiple Worksheets and Workbooks	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Format a consolidated worksheet • Fill using a linear series • Use date, time, and rounding functions • Apply a custom format code • Create a new cell style • Copy a worksheet • Drill to add data to multiple worksheets at the same time • Select and deselect sheet combinations • Enter formulas that use 3-D cell references • Use the Paste gallery • Format a 3-D pie chart with an exploded slice and lead lines • Save individual worksheets as separate workbook files • View and hide multiple workbooks • Consolidate data by linking separate workbooks
Chapter 6: Creating, Sorting, and Querying a Table	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • 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 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 find a value in a table • Display automatic subtotals • Use outline features to group, hide, and unhide data • Create a treemap chart
Chapter 7: Creating Templates, Importing Data, and Working with	CV12.2.2 CV12.2.4 CV12.3.1	<ul style="list-style-type: none"> • Create and use a template • Import data from a text file, an Access database, a webpage, and a Word document • Use text functions

SmartArt, Images and Screenshots	CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Paste values and paste text • Transpose data while pasting it • Convert text to columns • Replicate formulas • Use the Quick Analysis gallery • Find and replace data • Insert and format a bar chart • Insert and modify a SmartArt graphic • Add pictures to a SmartArt Graphic • Apply text effects • Include a hyperlinked screenshot
Chapter 8: Working with Trendlines, PivotTables, PivotCharts, and Slicers	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Analyze worksheet data using a trendline • Create a PivotTable report • Format a PivotTable report • Apply filters to a PivotTable report • Create a PivotChart report • Format a PivotChart report • Apply filters to a PivotChart report • Analyze worksheet data using PivotTable and PivotChart reports • Create calculated fields • Create slicers to filter PivotTable and PivotChart reports • Format slicers • Analyze PivotTable and PivotChart reports using slicers
Chapter 9: Formula Auditing, Data Validation, and Complex Problem Solving	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Use formula auditing techniques to analyze a worksheet • Trace precedents and dependents • Use error checking to identify and correct errors • Add data validation rules to cells • Enable the Solver add-in • Use trial and error to solve a problem on a worksheet • Use goal seeking to solve a problem • Circle invalid data on a worksheet • Use Solver to solve a complex problem • Use the Scenario Manager to record and save sets of what-if assumptions • Create a Scenario Summary report • Create a Scenario PivotTable report
Chapter 10: Data Analysis with Power Tools and Creating Macros	CV12.2.1 CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Explain Excel's power tools • Customize the ribbon and enable data analysis • Use the Get & Transform data commands • Create a query using Query Editor • Build a PivotTable using Power Pivot • Explain data modelling • Create a measure • View cube functions • Use Power View • Create tiles in a Power View report • Use 3D Maps • Save a tour as an animation • Explain Power BI • Create hyperlinks

		<ul style="list-style-type: none"> • Use the macro recorder to create a macro • Execute a macro
Chapter 11: User Interfaces, Visual Basic for Applications (VBA), and Collaboration Features in Excel	CV12.2.2 CV12.2.4 CV12.3.1 CV12.3.2 CV12.3.3 CV12.4.2 CV12.4.3 CV12.4.4 CV12.5.1 CV12.5.2 CV12.5.3	<ul style="list-style-type: none"> • Add and configure worksheet form controls such as command buttons, option buttons, and check boxes • Record user input to another location on the worksheet • Understand 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 • Review a digital signature on a workbook • Insert, edit, delete, and review comments in a workbook • Manage tracked changes in a shared workbook • Format a worksheet background • Enhance charts and sparklines • Save a custom view of a worksheet