LAUSD Division of Adult and Career Education

Career Technical Education (CTE) Course Outline

Course Title:	Microsoft Office Specialist [MOS]/2: Excel (Core/Expert Levels)
Course Number:	75-45-90
Date:	July 2024
Industry Sector:	Business & Finance
Pathway:	Business Management
CBEDS Title:	Business Communications
CBEDS Code:	4623
Credits:	5

Hours:

Total
60

Course Description:

This competency-based course is the second in a sequence of two designed to meet the Microsoft Office Specialist (MOS) certification requirements. It provides students with technical instruction and practical experience in two levels of Excel training – core and expert. Instruction includes an introduction, safety and ergonomics, manage worksheets and workbooks, manage data cells and ranges, manage tables and table data, apply formulas and functions, manage charts, manage workbook options and settings, manage and format data, advanced formulas and macros, manage advanced charts and PivotTables, evaluation, and employability skills and resume preparation. The competencies in this course are aligned with the California High School Academic Content Standards and the California Career Technical Education Model Curriculum Standards.

Prerequisites:	Enrollment requires successful completion of Microsoft Office Specialist [MOS]/1: Word (Core/Expert Levels) (75-45-80) course.
NOTE:	For Perkins purposes this course has been designated as a **capstone** course. This course **can** be repeated once a student receives a Certificate of Completion.
A-G Approval	N/A
Methods of Instruction:	Lecture and discussion, demonstration, individualized instruction, multimedia presentation, critical thinking and listening skills, small group peer teaching.
Student Evaluation:	Summative: End of section assessments.
Industry Certification:	N/A
Recommended Texts:	Scott, Alex. Microsoft Excel 2019 & 365: Comprehensive, Labyrinth Learning, 2019 Starks, Joy L., Freund, Steven M. Shelly Cashman Series® Microsoft® Office 365® & Excel 2019 Comprehensive, 1st Edition, Cengage Learning, 2020
Link to Resource Folder	https://bit.ly/mos2excelresources

Approved by: Renny L. Neyra, Executive Director

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
A. INTRODUCTION Identify skills required, equipment and materials used, classroom procedures, and available job opportunities. (2 hours)	1. Describe the scope and purpose of the course. 2. Describe classroom policies and procedures. 3. Describe the importance of prioritizing work. 4. Discuss, identify, research, and compare the different career paths, occupations, employment outlook, career advancements, and its impact on the business and finance industry sector. 5. Discuss the opportunities available for promoting gender equity and the representation of non-traditional populations. 6. Explain and recognize the importance of ethical behavior, responsibility, teamwork, respecting individual and cultural differences, and diversity in the workplace. 7. Describe the duties and job roles as they apply to the Business and Finance industry sector.	**Career Ready Practice:** 1, 2, 3, 4, 7, 8, 9, 11 **CTE Anchor:** Academics: 1.0 Communications: 2.1, 2.3, 2.5 Career Planning & Management: 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.9 Technology: 4.1, 4.2, 4.3, 4.5, 4.6 Responsibility & Flexibility: 7.3 Ethics & Legal Responsibilities: 8.4 Leadership & Teamwork: 9.3, 9.6 **CTE Pathway:** A7.1, A7.2, A7.4

B. SAFETY AND ERGONOMICS
 	
Review, understand, apply, and demonstrate the principles of workplace safety and ergonomics.
	1. Identify and explain classroom and workplace first aid and emergency procedures.
	2. Discuss, and research the California Occupational Safety and Health Administration (Cal/OSHA) workplace requirements to make informed decisions.
	3. Discuss how each of the following ensures a safe workplace to include verbal and nonverbal communication:
	   a. employees' rights as they apply to job safety
	   b. employees' obligations as they apply to safety
	   c. safety laws applying to tools and equipment
		Career Ready Practice:
		1, 2, 4, 5, 6, 8, 10, 11, 12
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5, 2.6
		Technology:
		4.1, 4.2

	4. Demonstrate operating a computer safely and in a manner that protects the equipment.
	5. Define ergonomics and demonstrate sound ergonomic practices such as:
	   a. identify causes, effects, and preventive measures for repetitive strain injuries
	   b. typing technique, posture, and finger placement
	   c. keyboard and monitor angle
	   d. ways to hold and move a mouse without gripping it hard or squeezing it
	   e. list benefits of periodic breaks to stretch and relax
	   f. variety of stretches involving the wrists, neck, and shoulders
	   g. organize and sanitize one's workspace
	6. Practice personal safety when lifting, bending, or moving equipment and supplies.
	7. Define, discuss, and interpret software copyright laws as they pertain to computers.
	8. Explain and sign the LAUSD Responsible Use Policy (RUP).
		Problem Solving & Critical Thinking:
		5.4
		Health & Safety:
		6.2, 6.3, 6.4, 6.5, 6.6, 6.7
		Ethics & Legal Responsibilities:
		8.2, 8.3, 8.4, 8.6, 8.7
		Technical Knowledge & Skills:
		10.1, 10.2
		Demonstration & Application:
		11.1
		
		CTE Pathway:
		A7.1, A7.2, A7.4

(3 hours)	9. Pass the safety test with 100% accuracy.	

C. MANAGE WORKSHEETS AND WORKBOOKS
 	
Understand, apply, and evaluate how to manage worksheets and workbooks for printing, collaboration, and distribution.
	1. Demonstrate how to import data into workbooks from:
	   a. text files
	   b. online sources
	2. Navigate within workbooks to:
	   a. search for data within a workbook
	   b. navigate to named cells, ranges, or workbook elements
	   c. insert and remove hyperlinks
	3. Format worksheets and workbooks to:
	   a. modify page setup
	   b. adjust row height and column width
	   c. customize headers and footers
	4. Customize options and views to:
	   a. customize the Quick Access toolbar
	   b. display and modify worksheets in different views
	   c. freeze worksheet rows and columns
	   d. change window views
	   e. modify built-in workbook properties
	   f. display formulas
		Career Ready Practice:
		1, 2, 4, 5, 10
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2, 4.3
		Problem Solving & Critical Thinking:
		5.2, 5.3
		Demonstration & Application:
		11.1
		
		CTE Pathway:
		A7.1, A7.2, A7.4

	5. Prepare workbooks for collaboration and distribution to:
	   a. set a print area
	   b. save and export workbooks in alternative file formats
	   c. configure print settings
	   d. inspection workbooks and correct issues
	   e. manage comments and notes	

(4 hours)	6. Pass an assessment with an 80% score or higher.	

D. MANAGE DATA CELLS AND RANGES
 	
Understand, apply, and evaluate how to manage data cells and ranges.
	1. Manipulate data in worksheets to:
	   a. paste data by using special paste options
	   b. fill cells by using Auto Fill
	   c. insert and delete multiple columns or rows
	   d. insert and delete cells
	   e. generate numeric data by using RANDBETWEEN() AND SEQUENCE()
	2. Demonstrate how to format cells and ranges to:
	   a. merge and unmerge cells
	   b. modify cell alignment, orientation, and indentation
	   c. format cells by using Format Painter
	   d. wrap text within cells
	   e. apply number formats
	   f. apply cell formats from the Format Cells dialog box
	   g. apply cell styles
	   h. clear cell formatting
	   i. format multiple worksheets by grouping
	3. Define and reference name ranges to:
	   a. define a named range
	   b. reference a named range
	4. Summarize data visually to:
	   a. insert Sparklines
	   b. apply built-in conditional formatting
	   c. remove conditional formatting
		Career Ready Practice:
		1, 2, 4, 5, 7, 10
		
		CTE Anchor:
		Academics: 1.0
		Communications: 2.1, 2.3, 2.5
		Technology: 4.2, 4.4
		Problem Solving & Critical Thinking: 5.2, 5.3
		Responsibility & Flexibility: 7.5
		Demonstration & Application: 11.1
		
		CTE Pathway:
		A7.1, A7.2, A7.4

(4 hours)	5. Pass an assessment with an 80% score or higher.	

E. MANAGE TABLES AND TABLE DATA
 	
Understand, apply, and evaluate how to manage Excel tables and table data.
	1. Create and format tables to:
	   a. define and create Excel tables from cell ranges
	   b. apply table styles
	   c. convert tables to cell ranges
	2. Modify tables to:
	   a. add or remove table rows and columns
	   b. configure table style options
	   c. insert and configure total rows
		Career Ready Practice:
		1, 2, 4, 5
		
		CTE Anchor:
		Academics: 1.0
		Communications:

	3. Filter and sort a table data to:
	   a. filter records
	   b. sort data by multiple columns
	4. Pass an assessment with an 80% score or higher.
		2.1, 2.3, 2.5
		Technology:
		4.2
		Problem Solving &
		Critical Thinking:
		5.3
		Technical Knowledge
		& Skills:
		10.1
		
		CTE Pathway:

(5 hours)		A7.1, A7.2, A7.4

F. APPLY FORMULAS AND FUNCTIONS
 	
Understand, apply, and evaluate formulas and functions.
	1. Insert references to:
	   a. insert relative, absolute, and mixed references
	   b. use structured references in formulas
	2. Calculate and transform data to:
	   a. perform calculations by using the AVERAGE(), MAX(), MIN (), and SUM() functions
	   b. count cells by using the COUNT(), COUNTA(), and COUNTBLANK() functions
	   c. perform conditional operations by using the IF() function
	   d. sort data by using the SORT() function
	   e. get unique values by using the UNIQUE() function
	3. Format and modify text by using the:
	   a. RIGHT(), LEFT(), and MID() functions
	   b. UPPER(), LOWER(), and LEN() functions
	   c. CONCAT() and TEXTJOIN() functions
	4. Pass an assessment with an 80% score or higher.
		Career Ready Practice:
		1, 2, 4, 5, 10
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2
		Problem Solving &
		Critical Thinking:
		5.3, 5.4
		Demonstration &
		Application:
		11.1
		
		CTE Pathway:

(6 hours)		A7.1, A7.2, A7.4

G. MANAGE CHARTS
 	
Understand, apply, and evaluate how to manage charts.
	1. Create and modify charts to:
	   a. create charts
	   b. create chart sheets
	   c. add data series to charts
	   d. switch between rows and columns in source data
	   e. add and modify chart elements
	2. Demonstrate how to format charts to:
	   a. insert text boxes
	   b. insert SmartArt
	   c. insert images
	   d. add borders to objects
		Career Ready Practice:
		1, 2, 4, 5, 10
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2

	e. add styles and effects to objects f. change object colors g. modify object properties h. position objects 3. Pass an assessment with an 80% score or higher.	Problem Solving & Critical Thinking: 5.3 Demonstration & Application: 11.1 **CTE Pathway**: A7.1, A7.2, A7.4
(2 hours)		

H. MANAGE WORKBOOK OPTIONS AND SETTINGS
 	
Understand, apply, and evaluate how to manage workbook options and settings.
	1. Manage workbooks to:
	   a. copy macros between workbooks
	   b. reference data in other workbooks
	   c. enable macros in a workbook
	   d. manage workbook versions
	2. Prepare workbooks for collaboration to:
	   a. restrict editing
	   b. protect worksheets and cell ranges
	   c. protect workbook structure
	   d. configure formula calculation options
	3. Pass an assessment with an 80% score or higher.
		Career Ready Practice:
		1, 2, 4, 5
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2
		Problem Solving &
		Critical Thinking:
		5.3
		
		CTE Pathway:
		A7.1, A7.2, A7.4

(2 hours)		

I. MANAGE AND FORMAT DATA
 	
Understand, apply, and evaluate how to manage and format data.
	1. Fill cells based on existing data to:
	   a. fill cells by using Flash Fill
	   b. fill cells by using advanced Fill Series options
	   c. generate numeric data by using RANDARRAY()
	2. Format and validate data to:
	   a. create custom number formats
	   b. configure data validation
	   c. group and ungrouping data
	   d. calculate data by inserting subtotals and totals
	   e. remove duplicate records
	3. Apply advanced conditional formatting and filtering to:
	   a. create custom conditional formatting rules
	   b. create conditional formatting rules that use formulas
	   c. manage conditional formatting rules
	4. Pass an assessment with an 80% score or higher.
		Career Ready Practice:
		1, 2, 4, 5
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2, 4.4
		Problem Solving &
		Critical Thinking:
		5.3
		
		CTE Pathway:
		A7.1, A7.2, A7.4

(6 hours)		

| J. **ADVANCED FORMULAS AND MACROS**

Understand, apply, and evaluate how to manage advanced formulas, macros, and perform what-if analysis. | 1. Perform logical operations in formulas by using nested functions below:
  a. IF()
  b. IFS()
  c. SWITCH()
  d. SUMIF()
  e. AVERAGEIF()
  f. COUNTIFS()
  g. MAXIFS ()
  h. MINIFS()
  i. AND()
  j. OR()
  k. NOT()
  l. LET()
2. Look up data by using the following functions:
  a. XLOOKUP()
  b. VLOOKUP()
  c. HLOOKUP()
  d. MATCH()
  e. INDEX()
3. Use advanced date and time functions to:
  a. reference data and time by using the NOW() and TODAY() functions
  b. calculate dates by using the WEEKDAY() and WORKDAY() functions
4. Perform data analysis to:
  a. summarize data from multiple ranges by using the Consolidate feature
  b. perform what-if analysis by using Goal Seek and Scenario Manager
  c. Forecast data by using the AND(), IF(), and NPER() functions
  d. calculate financial data by using the PMT() function
  e. filter data by using FILTER()
  f. sort data by using SORTBY()
5. Troubleshoot formulas to:
  a. trace precedence and dependence
  b. monitor cells and formulas by using the Watch Window
  c. validate formulas by using error checking rules
  d. evaluating formulas
6. Create and modify simple macros to:
  a. record simple macros
  b. name simple macros | **Career Ready Practice**:
1, 2, 4, 5, 10

CTE Anchor:
Academics:
1.0
Communications:
2.1, 2.3, 2.5
Technology:
4.2
Problem Solving & Critical Thinking:
5.3, 5.4
Demonstration & Application:
11.1

CTE Pathway:
A7.1, A7.2, A7.4 |

(12 hours)	c. edit simple macros 7. Pass an assessment with an 80% score or higher.	

K. MANAGE ADVANCED CHARTS AND PIVOT TABLES
 	
Understand, apply, and evaluate how to manage advanced charts and PivotTables.
 	
(6 hours)
	1. Create and modify advanced charts by creating and modifying:
	   a. dual-axis charts
	   b. charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts
	2. Create and modify PivotTables to:
	   a. create PivotTables
	   b. modify field selections and options
	   c. create slicers
	   d. group PivotTable data
	   e. add calculated fields
	   f. configure value field settings
	3. Create and modify PivotCharts to:
	   a. create PivotCharts
	   b. manipulate options in existing PivotCharts
	   c. apply styles to PivotCharts
	   d. drill down into PivotChart details
	4. Pass an assessment with an 80% score or higher.
		Career Ready Practice:
		1, 2, 4, 5, 10
		
		CTE Anchor:
		Academics:
		1.0
		Communications:
		2.1, 2.3, 2.5
		Technology:
		4.2
		Problem Solving & Critical Thinking:
		5.3, 5.4
		Demonstration & Application:
		11.1
		
		CTE Pathway:
		A7.1, A7.2, A7.4

L. CORE/EXPERT LEVEL EVALUATION Understand and evaluate the simulated MOS Certification test for Excel (Core/Expert Level). (2 hours)	1. Pass the timed simulated MOS Certification test for Excel (Core/Expert Level) with a minimum score of 80% or higher.	**Career Ready Practice:** 1, 2, 4, 5, 10 **CTE Anchor**: Academics: 1.0 Communications: 2.1, 2.3 Technology: 4.2 Problem Solving & Critical Thinking: 5.3 Demonstration & Application: 11.1, 11.2 **CTE Pathway:** A7.1, A7.2, A7.4

| M. EMPLOYABILITY SKILLS AND RESUME PREPARATION

Understand, apply, and evaluate employability and resume preparation skills. | 1. Understand and define employer requirements for soft skills such as:
  a. attitude toward work
  b. communication and collaboration
  c. critical thinking, problem solving, and decision-making
  d. customer service
  e. diversity in the workplace
  6. flexibility and adaptability
  7. interpersonal skills
  h. leadership and responsibility
  9. punctuality and attendance
  10. quality of work
  k. respect, cultural and diversity differences
  l. teamwork
  13. time management
  n. trust and ethical behavior
  o. work ethic
2. Develop a career plan that reflects career interests, pathways, and post-secondary options.
3. Create/revise a resume, cover letter and/or portfolio.
4. Demonstrate, analyze, research, and review the role of online job searching platforms and career websites to make informed decisions.
5. Understand the importance of assessing social media account content for professionalism.
6. Demonstrate and complete and/or review an on-line job application.
7. Understand and demonstrate interview skills to get the job:
  a. do's and don'ts for job interviews
  b. how to dress for the job
8. Demonstrate and create sample follow-up letters.
9. Understand the importance of the continuous upgrading of job skills as it relates to:
  a. certification, licensure, and/or renewal
  b. professional organizations/events
  c. industry associations and/or organized labor | **Career Ready Practice:**
1, 2, 3, 4, 5, 7, 8, 9, 10, 11

CTE Anchor:
Academics:
1.0
Communications:
2.1, 2.2, 2.3, 2.4. 2.5, 2.6
Career Planning & Management:
3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9
Technology:
4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Problem Solving & Critical Thinking:
5.1, 5.2, 5.4
Responsibility & Flexibility:
7.2, 7.3, 7.4, 7.5, 7.7
Ethics & Legal Responsibilities:
8.3, 8.4, 8.5
Leadership & Teamwork:
9.1, 9.2, 9.3, 9.4, 9.6, 9.7
Technical Knowledge & Skills:
10.1, 10.3
Demonstration & Application:
11.1, 11.2, 11.5

CTE Pathway:
A7.1, A7.2, A7.4 |
| (4 hours) | | |

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Ana Martinez and Ruby Kowaney