Western Technical College

10106141 Spreadsheet & Database Applications for Business

Course Outcome Summary

Course Information

Description	Students study advanced Microsoft Excel and Access applications and apply those applications to practical business case problems.
Career Cluster	Business Management and Administration
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	72

Textbooks

MindTap for The Shelly Cashman Series Collection, Microsoft Office 365 & Office 2019. 1st Edition. Copyright 2020. Cable, Sandra, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks, and Misty E. Vermaat. Publisher: Cengage Learning. **ISBN-13:** 978-0-357-11915-0. Required.

Learner Supplies

Webcam and headset with microphone. **Vendor:** Campus Shop. Required.

Success Abilities

1. Cultivate Passion: Expand a Growth-Mindset
2. Live Responsibly: Develop Resilience
3. Live Responsibly: Embrace Sustainability
4. Refine Professionalism: Improve Critical Thinking

Program Outcomes

1. Demonstrate effective workplace communications.
2. Apply technology skills to business and administrative tasks.
3. Perform routine administrative procedures.

4. Manage administrative projects.
5. Model professionalism in the workplace.

Course Competencies

1. Use an electronic spreadsheet as a database.

Assessment Strategies

1.1. Skills Exam
1.2. Objective Test

Criteria

You will know you are successful when

1.1. you define the elements of a database table
1.2. you prepare data in a table
1.3. you format a database table
1.4. you insert calculated fields with structured references
1.5. you use lookup tables
1.6. you create a query table to find records that satisfy various criteria
1.7. you perform a sort of the query table
1.8. you create a database table.

Learning Objectives

1.a. Prepare a collection of data in a table
1.b. Use lookup tables in a worksheet
1.c. Insert calculated fields using structured references in a worksheet
1.d. Apply conditional formatting and icon sets in a worksheet
1.e. Sort database table in a worksheet
1.f. Query a table in a worksheet
1.g. Extract records with criteria ranges in a worksheet
1.h. Use database functions (DAAVERAGE, DCOUNT, SUMIF, COUNTIF, INDEX, AND MATCH)
1.i. Display automatic subtotals, outline, and treemap chart in a worksheet
1.j. Create a database table in a worksheet.

2. Import data in an electronic spreadsheet .

Assessment Strategies

2.1. Skills Exam
2.2. Objective Test

Criteria

You will know you are successful when

2.1. you import data in a spreadsheet
2.2. you use live preview feature to analyze data to create totals
2.3. you use live preview feature to analyze data to create charts
2.4. you find and replace data

Learning Objectives

2.a. Import data from outside date (database, text, and webpage)
2.b. Use live preview feature to analyze data to create totals and charts
2.c. Find and replace data

3. Create an electronic spreadsheet template.

Assessment Strategies

3.1. Skills Exam
3.2. Objective Test

Criteria

You will know you are successful when

3.1. you create a spreadsheet template
3.2. you format a spreadsheet template
3.3. you use a template to create a new workbooks

Learning Objectives

3.a. Create a spreadsheet template with sample data and formulas
3.b. Format a spreadsheet template
3.c. Use a template to create a new workbook

4. Enhance electronic spreadsheets with advanced charts, graphics, images, and screenshots .

Assessment Strategies

4.1. Skills Exam
4.2. Objective Test

Criteria

You will know you are successful when

4.1. you create charts
4.2. you create a graphic to display pictures and text
4.3. you add a hyperlinked screenshot

Learning Objectives

4.a. Create a bar chart
4.b. Create a line chart with a trendline
4.c. Create a graphic to display pictures and text
4.d. Add a hyperlinked screenshot

5. Solve complex problems with an electronic spreadsheet .

Assessment Strategies

5.1. Skills Exam
5.2. Objective Test

Criteria

You will know you are successful when

5.1. you verify all formulas are correct
5.2. you use precedents and dependent tracking
5.3. you use formula auditing tools to correct errors
5.4. you set data validation rules
5.5. you use various what-if features to solve problems
5.6. you create scenarios with Scenario Manager, Scenario Summary, and Scenario Pivot Tables

Learning Objectives

5.a. Analyze the workbook formulas in a workbook
5.b. Establish data validation rules to restrict cell contents
5.c. Use Goal Seek to solve a complex problem
5.d. Determine strategies for problem solving using a spreadsheet
5.e. Use Solver to analyze data
5.f. Create scenarios (Scenario Manager, Scenario Summary, and Scenario Pivot Tables) to track, compare, and interpret data

6. Analyze data with PivotTable and PivotChart reports in an electronic spreadsheet.

Assessment Strategies

6.1. Skills Exam
6.2. Objective Test

Criteria

You will know you are successful when

6.1. you create PivotTables
6.2. you change the PivotTables layout/view
6.3. you filter PivotTables
6.4. you format PivotTables

6.5. you apply PivotTables summary functions
6.6. you create PivotCharts
6.7. you change the PivotCharts view and contents
6.8. you create calculated fields in PivotTable and PivotChart reports
6.9. you create graphic objects (Sliders) to filter PivotTables and PivotCharts

Learning Objectives

6.a. Create PivotTable reports
6.b. Format PivotTable reports
6.c. Filter PivotTables reports
6.d. Use PivotTable reports summary functions
6.e. Format PivotTables reports
6.f. Create PivotCharts reports
6.g. Filter PivotCharts reports
6.h. Create calculated fields in PivotTable and PivotChart reports
6.i. Create graphic objects (Sliders) to filter PivotTables and PivotCharts

7. Analyze data using Power Tools in an electronic spreadsheet.

Assessment Strategies

7.1. Skills Exam
7.2. Objective Test

Criteria

You will know you are successful when

7.1. you transform data into an accessible spreadsheet table
7.2. you use Power Pivot
7.3. you use Power View
7.4. you use 3D Map to use geographic data

Learning Objectives

7.a. Transform data into an accessible spreadsheet table
7.b. Use Power Pivot to create a PivotTable from multiple data sources
7.c. Use Power View to create a chart with multiple data sources o to use interactive tiles/data card visualizations
7.d. Use 3D Map to use geographic data

8. Design user interfaces in an electronic spreadsheet and database.

Assessment Strategies

8.1. Skills Exam
8.2. Objective Test

Criteria

You will know you are successful when

8.1. you create a home page in a spreadsheet
8.2. you automate data entry with macros in a spreadsheet
8.3. you design a user interface with controls
8.4. you set control properties
8.5. you write the Visual Basic code
8.6. you test the user interface
8.7. you create a navigation form in a database
8.8. you create a data macro in a database

Learning Objectives

8.a. Create a home page with hyperlinks in a spreadsheet
8.b. Record a macro in a spreadsheet and a database
8.c. Name a macro a spreadsheet and a database
8.d. Document a macro a spreadsheet and a database
8.e. Execute a macro a spreadsheet and a database
8.f. Design the user interface a spreadsheet and a database
8.g. Record user input in a spreadsheet

8.h. Write Visual Base for Application (VBA) code in a spreadsheet
8.i. Test the user interface
8.j. Create a navigation form in a database
8.k. Create a data macro in a database

9. Develop multiple-table forms in a database.

Assessment Strategies

9.1. Skills Exam
9.2. Objective Test

Criteria

You will know you are successful when

9.1. you create a form using the design view
9.2. you add controls to the form
9.3. you add a subform to the form
9.4. you modify the subform
9.5. you format the form

Learning Objectives

9.a. Create a form using design view
9.b. Add controls to the form
9.c. Add a subform to the form
9.d. Modify the subform
9.e. Enhance the form

10. Create advanced database reports and forms.

Assessment Strategies

10.1. Skills Exam
10.2. Objective Test

Criteria

You will know you are successful when

10.1. you create reports and forms in design view
10.2. you add fields and text boxes to a report and forms
10.3. you format report and forms controls
10.4. you group and ungroup report and forms controls
10.5. you update multiple report and forms controls
10.6. you add a subreport and subform
10.7. you modify a subreport and subform
10.8. you add a title, page number, and date to a report and forms
10.9. you add totals and subtotals to a report

Learning Objectives

10.a. Create reports in design view
10.b. Add fields and text boxes to a report and forms
10.c. Format report and forms controls
10.d. Group and ungroup report and forms controls
10.e. Update multiple report and forms controls
10.f. Add a subreport and subform
10.g. Modify a subreport and subform
10.h. Add a title, page number, and date to a report and forms
10.i. Add totals and subtotals to a report

11. Perform SQL queries in a database.

Assessment Strategies

11.1. Skills Exam
11.2. Objective Test

Criteria

You will know you are successful when

11.1. you create SQL (Structured Query Language) queries
11.2. you use simple criteria in a SQL query
11.3. you use compound criteria in a SQL query
11.4. you sort SQL query results
11.5. you group SQL query results
11.6. you use joined tables in a SQL query
11.7. you use a subquery in a SQL query
11.8. you update date with a SQL query

Learning Objectives

11.a. Create SQL (Structured Query Language) queries
11.b. Use simple criteria in a SQL query
11.c. Use compound criteria in a SQL query
11.d. Sort SQL query results
11.e. Group SQL query results
11.f. Use joined tables in a SQL query
11.g. Use a subquery in a SQL query
11.h. Update date with a SQL query

12. Improve the functionality of a database.

Assessment Strategies

12.1. Skills Exam
12.2. Objective Test

Criteria

You will know you are successful when

12.1. you use tools to analyze and document a database
12.2. you customize the navigation pane
12.3. you use custom properties and create indexes
12.4. you create a custom data part
12.5. you create a custom template
12.6. you encrypt, lock and split a database

Learning Objectives

12.a. Convert a database
12.b. Use tools to analyze and document a database
12.c. Customize the navigation pane
12.d. Use custom properties and create indexes
12.e. Create a custom data part
12.f. Create a custom template
12.g. Encrypt, lock and split a database