South Central College

COMP 1125  Spreadsheet/Database Integration

Course Outcome Summary

Course Information

Description
The focus of this course will be on the core competencies of Excel and Access and their integration with Word, PowerPoint, and each other. Topics to be covered in Excel include: formatting, creating formulas, creating charts and pivot tables, linking files, using templates and hyperlinks, and the use of functions, including logical and lookup functions. Topics covered in Access include: understanding the concepts, design, and construction of a relational database. The student will create table structures, queries, forms, and reports. Students will integrate these applications together to create a final capstone project for the course. Basic Windows navigation skills will be beneficial. (Prerequisites: None)

Total Credits 4
Total Hours 64

Types of Instruction

Instruction Type Credits/Hours
Lecture

Pre/Corequisites

None

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Examine the Excel Worksheet

Learning Objectives
Identify major components of the Excel window
Navigate within and between worksheets
Enter data in an Excel worksheet
Manipulate columns and rows
Create and display simple formulas
Use Spell Checker
Preview and print a workbook
Use the HELP features of Excel

2. Format & Print worksheets to increase readability.

Learning Objectives
Format the worksheet to aid readability of the data
Apply and modify various formatting styles
Change alignment of cell contents
Apply borders, background colors, and patterns to cells & worksheets
Apply conditional formatting to a range of cells
Use Print Setup options to prepare worksheet for printing
Add headers & footers to printouts

3. Analyze formulas and functions.

Learning Objectives
Examine the syntax of formulas and functions
Copy & paste formulas and functions
Work with relative and absolute cell addresses
Use the Insert Function dialog box
Use the AutoFill to copy formulas and series
Work with financial and logical functions

4. Chart data to present information in a graphical manner.

Learning Objectives
Create Column, Line, &Pie charts
Work with 3D charts
Modify chart objects
Embed charts in a worksheet
Create Sparkline charts
Edit the data source for the chart
Create chart sheets

5. Set up a data list (table).

Learning Objectives
Create an Excel data list (table) with appropriate headers
Sort data in the list
Filter data in the list using AutoFilters
Insert subtotals and totals into a list

6. Create pivot tables to summarize data.

Learning Objectives
Summarize a list using a pivot table
Modify the pivot table layout


Learning Objectives
Consolidate the data from multiple worksheets.
Create a workbook based on a template.
Create 3D cell references
Create and edit Links to workbooks.
Create hyperlinks in a workbook.
Create custom templates
Create a Web page

8. Work with Advanced Functions and Filtering.

Learning Objectives
Use IF functions
Use Lookup functions
Use Database functions
Create Criteria ranges for advanced filtering.

9. **Examine basic Word features.**

   **Learning Objectives**
   - Create a Word document
   - Format the document
   - Save and Print the document

10. **Merge Excel and Word files.**

    **Learning Objectives**
    - Link an Excel worksheet to a Word document.
    - Insert graphics or charts as an embedded object.
    - Update a linked object.
    - Modify an embedded object.

11. **Examine basic PowerPoint features.**

    **Learning Objectives**
    - Create a slide show
    - Add, move, and delete slides
    - Save PowerPoint file as a .pptx
    - Apply backgrounds and transitions to a slide show
    - Print slideshow
    - Print as outlines, handouts, and speaker notes.
    - Incorporate Excel charts or graphs into a slide show
    - Insert clipart where appropriate

12. **Examine Access components and database concepts**

    **Learning Objectives**
    - Define key database terms
    - Identify Access database objects.
    - Copy records from one Access database to another.

13. **Design a relational database**

    **Learning Objectives**
    - Explore the guidelines for designing a database
    - Identify information and data to be tracked
    - Organize related fields to create tables
    - Identify the common fields between groupings

14. **Create and modify relational database tables**

    **Learning Objectives**
    - Explore field naming strategies
    - Determine which field could be the primary key for the table
    - Modify the structure of a database table
    - Change the properties of a field in the table
    - Add/modify data records in a table
    - Import records into the database from another source
    - Define relationships between the tables
    - Define referential integrity rules

15. **Query the database to extract information**

    **Learning Objectives**
    - Explore the query window (QBE Grid)
    - Sort records using queries
    - Use criteria to select records
    - Use And and Or logical operators
Create calculated fields in a query
Use Aggregate Functions in a calculated field

16. **Create basic form objects**
   Learning Objectives
   Use the form wizard to create a form
   Preview/print a form
   Modify data using a form
   Create a Mainform and a Subform

17. **Create basic report objects**
   Learning Objectives
   Use the report wizard to create a report
   Insert graphics in a report
   Use conditional formatting in a report

18. **Enhance a table design**
   Learning Objectives
   Create a lookup field in a table
   Use the IIF function to assign a conditional value
   Set up an input mask property for a field in a table
   Identify object dependencies
   Define data validation rules

19. **Create advanced queries**
   Learning Objectives
   Use more complex criteria for select queries
   Create a parameter query
   Create a cross-tab query
   Create a find duplicate query
   Create a find unmatched query
   Create a top values query

20. **Customize form objects**
   Learning Objectives
   Create a custom form
   Add combo boxes to a form
   Manipulate controls on a form
   Create a multi-page form
   Add a sub-form to a form
   Build calculated fields on a form
   Add form headers & footers

21. **Customize report objects**
   Learning Objectives
   Create a custom report
   Manipulate controls on a report
   Build calculated fields in a report
   Sort & Group data in a report
   Create mailing labels

22. **Complete a final project**
   Learning Objectives
   Design a relational database
   Create a relational database
   Incorporate elements of Excel, Access, Word, and PowerPoint into a final project.
   Adhere to specifications laid out in project directions
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