CIS175 COURSE OUTLINE

Course Number: CIS175
Course Title: PC Applications: Spreadsheets
Credits: 3

Hours: Lecture/Lab: 2/2
Co- or Pre-requisite: none

Catalog description:

Students acquire a working knowledge of Excel® with emphasis on formulas, charts, and managing worksheets and lists.

Required texts/other materials:

Text: See course syllabus or MCCC bookstore for current textbook
Software: Microsoft Excel® (See course syllabus for software version)

Revision date: Spring 2019
Course coordinator: Professor Kristen Callahan
609-570-3216
callahak@mccc.edu

Course Competencies/Goals:

At the completion of the course, the student will be able to:

1. Understand what spreadsheets are used for and specifically how to use the most important and common features of Microsoft Excel®.
2. Use Microsoft Excel® to solve business problems.
   a. create a worksheet and workbook
   b. chart and analyze data
   c. use functions, create tables and manage large workbooks
   d. use what-if analysis, data analysis, solver, and scenario tools.
   e. use financial and lookup functions, define names, validate data, and audit worksheets.
   f. use PivotTables, PivotCharts, and Business Intelligence tools.
   g. use macros and VBA (Visual Basic for Applications)
   h. use external data, database functions, and side-by-side tables.
   i. collaborate with others and prepare a workbook for distribution

Course-specific General Education Knowledge Goals and Core Skills.

General Education Knowledge Goals
Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

MCCC Core Skills
Goal B. Critical Thinking and Problem-solving. Students will use critical thinking and problem solving skills in analyzing information.
Goal E. Computer Literacy. Students will use computers to access, analyze or present information, solve problems, and communicate with others.
Units of study in detail:

Creating a Worksheet and Charting Data

*Learning Objectives*

*The student will be able to…*

- Create, Save and Navigate an Excel® Workbook
- Enter Data in a Worksheet
- Construct and Copy Formulas and Use the SUM Function
- Format Cells with Merge & Center, Cell Styles and Themes
- Chart Data to Create a Column Chart and Insert Sparklines
- Print a Worksheet, Display Formulas, and Close Excel®
- Check Spelling in a Worksheet
- Enter Data by Range
- Construct Formulas for Mathematical Operations
- Edit Values in a Worksheet
- Format a Worksheet

Using Functions, Creating Tables, and Managing Large Workbooks

*Learning Objectives*

*The student will be able to…*

- Use Flash Fill and the SUM, AVERAGE, MEDIAN, MIN and MAX Functions
- Move Data, Resolve Error Messages, and Rotate Text
- Use COUNTIF and IF Functions and Apply Conditional Formatting
- Use Data & Time Functions and Freeze Panes
- Create, Sort, and Filter an Excel® Table
- View, Format, and Print a Large Worksheet
- Navigate a Workbook and Rename Worksheets
- Enter Dates, Clear Contents, and Clear Formats
- Copy and Paste by Using the Past Options Gallery
- Edit and Format Multiple Worksheets at the Same Time
- Create a Summary Sheet with Column Sparklines
- Format and Print Multiple Worksheets in a Workbook

Analyzing Data with Pie Charts, Line Charts, and What-If Analysis Tools

*Learning Objectives*

*The student will be able to…*

- Chart Data with a Pie Chart
- Format a Pie chart
- Edit a Workbook and Update a Chart
- Use Goal Seek to Perform What-If Analysis
- Design a Worksheet for What-If-Analysis
- Answer What-If Questions by Changing Values in a Worksheet
- Chart Data with a Line Chart

Use Financial and Lookup Functions, Define Names, Validate Data, and Audit Worksheets

*Learning Objectives*

*The student will be able to…*

- Use Financial Functions
- Use Goal Seek
- Create a Data Table
- Use Defined Names in a Formula
- Use Lookup Functions
- Validate Data
- Audit Worksheet Formulas
- Use the Watch Window to Monitor Cell Values
Managing Large Workbooks and Using Advanced Sorting and Filtering

**Learning Objectives**

The student will be able to:

- Navigate and Manage Large Worksheets
- Enhance Worksheets with Themes and Styles
- Format a Worksheet to Share with Others
- Save Excel® Data in Other File Formats
- Use Advanced Sort Techniques
- Use Custom and Advanced Filters
- Subtotal, Outline, and Group a List of Data

Creating Charts, Diagrams, and Templates

**Learning Objectives**

The student will be able to:

- Create and Format Sparklines and a Column chart
- Create and Format a Line Chart
- Create and Modify a SmartArt Graphic
- Create and Modify an Organization Chart
- Create an Excel® Template
- Protect a Worksheet
- Create a Worksheet Based on a Template

Creating PivotTables and PivotChart Reports and Using BI Tools in Excel®

**Learning Objectives**

The student will be able to:

- Create a PivotTable Report
- Use Slicers and Search Filters
- Modify a PivotTable Report
- Create a PivotChart Report
- Create a Data Model Using PowerPivot
- Create a PivotTable Using PowerPivot
- Create a Dashboard Using Power View

Using the Data Analysis, Solver, and Scenario

**Learning Objectives**

The student will be able to:

- Calculate a Moving Average
- Project Income and Expenses
- Determine a Break-Even Point
- Use Solver
- Create Scenarios
- Use Logical Functions
- Create Complex Formulas

Using Macros and Visual Basic for Applications

**Learning Objectives**

The student will be able to:

- Record a Macro
- Assign a Macro to a Button on the Quick Access Toolbar
- Modify a Macro
- Write a VBA Procedure to Use an ActiveX Control
- Restore Initial Settings

External Data, Database Functions, and Side-by-Side Tables
Learning Objectives
The student will be able to...
• Get External Data into Excel®
• Cleanup and Manage Data
• Create a Query and Use the Query Wizard to Sort and Filter
• Use Database Functions
• Insert a Second Table into a Worksheet
• Apply Conditional Formatting to Side-by-Side Tables
• Insert a Screenshot
• Create Custom Headers and Footers

Collaborating with Others and Preparing a Workbook for Distribution
Learning Objectives
The student will be able to...
• Create a Shared Workbook
• Track Changes Made to a Workbook
• Merge Workbooks and Accept Changes
• Prepare a Final Workbook for Distribution
• Upload a Workbook to OneDrive

Evaluation of student learning:
Exams 50%
Homework and Projects 50%

Academic Integrity Statement:
Mercer County Community College is committed to Academic Integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work and that faculty and academic support services staff members will take reasonable precautions to prevent the opportunity for academic dishonesty. The college recognizes the following general categories of violations of Academic Integrity, with representative examples of each. Academic Integrity is violated whenever a student:

A. Uses or obtains unauthorized assistance in any academic work.
• copying from another student's exam.
• using notes, books, electronic devices or other aids of any kind during an exam when prohibited.
• stealing an exam or possessing a stolen copy of an exam.

B. Gives fraudulent assistance to another student.
• completing a graded academic activity or taking an exam for someone else.
• giving answers to or sharing answers with another student before, during or after an exam or other graded academic activity.
• sharing answers during an exam by using a system of signals.

C. Knowingly represents the work of others as his/her own, or represents previously completed academic work as current.
• submitting a paper or other academic work for credit which includes words, ideas, data or creative work of others without acknowledging the source.
• using another author's words without enclosing them in quotation marks, without paraphrasing them or without citing the source appropriately.
• presenting another individual's work as one's own.
• submitting the same paper or academic assignment to another class without the permission of the instructor.
• falsifying bibliographic entries.
• submitting any academic assignment which contains falsified or fabricated data or results.

D. Inappropriately or unethically uses technological means to gain academic advantage.
• Inappropriately or unethically acquiring material via the Internet or by any other means
• using any electronic or hidden devices for communication during an exam.

**Office of Special Services:** If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as outlined, or which will require academic accommodations, please notify your instructor at the start of the semester. Any student who has special needs because of a disability is entitled to receive accommodations. Eligible students at Mercer County Community College are assured services under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. If you believe you are eligible for services, please contact the Director of Academic Support Services at (609) 570-3525.

**NOTE:** Any exception to the above-stated policies can be made at the discretion of the instructor on an individual basis.