COURSE OUTLINE

Course Number	**Course Title**	**Credits**
CIS 175	**PC Applications: Spreadsheets**	**3**

Hours: **Lecture/Lab/Other**	**Pre-requisite**	**Implementation** **Semester & Year**
2/2/0	**IST 101 or equivalent proficiency**	**SPRING 2022**

Catalog description:

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

General Education Category: **Not GenEd**	**Course coordinator:** Terry Voldase, Associate Professor of Computer Information Systems, 609-570-3481, voldaset@mccc.edu

Required texts & Other materials:
- Pearson eText GO! with Microsoft Excel 2019 Comprehensive textbook + MyLab IT software – (ISBN: 978-0-13-576895-2)
- Microsoft Office 2019 – free software provided by MCCC
- PC and Mac computers with software downloads permissions

Course Student Learning Outcomes (SLO):
Upon successful completion of this course the student will be able to:

1. Understand what spreadsheets are used for and specifically how to use the most important and common and advanced features of Microsoft Excel®. (**Supports ILGs 2, 4, 10,11; PLOs 1, 2, 3**)
2. Use Microsoft Excel® to solve business problems utilizing the following features. (**Supports ILGs 2, 4, 10, 11; PLOs 1, 2, 3**)
   - Develop worksheets and workbooks
   - Chart and analyze data
   - Develop functions, create tables and manage large workbooks
   - Develop what-if analysis, data analysis, solver, and scenario tools
   - Develop financial and lookup functions, define names, validate data, and audit worksheets
   - Develop PivotTables, PivotCharts, and Business Intelligence tools
   - Create macros and VBA (Visual Basic for Applications)
   - Utilize external data, database functions, and side-by-side tables
   - Collaborate with others and prepare a workbook for distribution

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.
Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.
Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.
Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Business Studies (A.A.S.) – Business Systems Concentration

1. Understand basic accounting statements and their role in managing a business;
2. Acquire computer literacy and exposure to hardware, software, networking, databases, and ethical issues;
3. Apply financial concepts and tools to achieve personal goals.

Units of study in detail – Unit Student Learning Outcomes:

Unit I   [Unit I Worksheet and Charting Data [Supports Course SLO #1, 2]

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

Unit II   [Unit II Functions, Creating Tables, and Managing Large Workbooks] [Supports Course SLOs #1, 2]

Learning Objectives
The student will be able to:
- Demonstrate Flash Fill and the SUM, AVERAGE, MEDIAN, MIN and MAX Functions
- Move Data, Resolve Error Messages, and Rotate Text
- Apply COUNTIF and IF Functions and Apply Conditional Formatting
- Utilize 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

Unit III [Unit III Data with Pie Charts, Line Charts, and What-If Analysis Tools]
[Supports Course SLOs #1, 2]
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
- Apply 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

Unit IV [Unit IV Financial and Lookup Functions, Define Names, Validate Data,
and Audit Worksheets] [Supports Course SLOs #1, 2]

Learning Objectives
The student will be able to:
- Apply Financial Functions
- Apply Goal Seek
- Create a Data Table
- Define Names in a Formula
- Demonstrate Lookup Functions
- Validate Data
- Audit Worksheet Formulas
- Use the Watch Window to Monitor Cell Values

Unit V [Unit V Managing Large Workbooks and Using Advanced Sorting and Filtering]
[Supports Course SLOs #1, 2]
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
- Demonstrate Advanced Sort Techniques
- Demonstrate Custom and Advanced Filters
- Subtotal, Outline, and Group a List of Data

Unit VI   **[Unit VI Creating Charts, Diagrams, and Templates] [Supports Course SLOs #1, 2]**

> ***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

Unit VII   **[Unit VII Creating PivotTable Reports and Using BI Tools in Excel®] [Supports Course SLOs #1, 2]**

> ***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

Unit VIII   **[Unit VIII Data Analysis, Solver, and Scenario] [Supports Course SLOs #1, 2]**

> ***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

Unit IX   **[Unit IX Macros and Visual Basic for Applications] [Supports Course SLOs #1, 2]**

> ***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.

Unit X **[Unit X External Data, Database, Functions, and Side-by-Side Tables]**
[Supports Course SLOs #1, 2]

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

Unit XI **[Unit XI Collaboration and Preparing Workbook for Distribution]**
[Supports Course SLOs #1, 2]

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:

Grade Criteria

Overall Evaluation	Assessment
20%	Chapter Simulation Training
20%	Chapter Simulation Exams
25%	Grader Projects
25%	Capstone Projects
10%	MOS Quizzes

Grading Schema:

Letter Grade	Nominal %
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	70-76
D	60-69
F	00-59