

COURSE TITLE

Advanced Computer Software Systems

LENGTH

Half-Year
Grades 10-12

DEPARTMENT

Business Education
Barbara O'Donnell, Supervisor

SCHOOL

Rutherford High School

DATE

Spring 2017

Advanced Computer Software Systems

I. Introduction/Overview/Philosophy

This course is designed to introduce students to advanced word processing and spreadsheet software packages such as Microsoft Word and Excel. Students will become proficient at using the major functions of these packages including using basic and advanced formatting techniques, enhancing documents, using timesaving features, working with tables, etc. Students will also be introduced to the charting and database capabilities of a spreadsheet program. These various advanced computer software systems will be learned using a hands-on, activity-based approach. The topics covered will mirror the skills needed on the MOUS (Microsoft Office User Specialist) certification exam.

This course is intended for all students because it is imperative that all students build a solid understanding of the advanced software applications used at colleges, universities, and in the real world.

II. Objectives

Course Outline:

I. MASTERING WORD PROCESSING

A. WORKING WITH TEXT

1. Use the Undo, Redo, and Repeat commands
2. Apply font formats (Bold, Italic, and Underline)
3. Use the Spelling feature
4. Use the Thesaurus feature
5. Use the Grammar feature
6. Insert Page Breaks
7. Highlight text in a document
8. Insert and move text
9. Cut, Copy, Paste and Paste Special, using the Office Clipboard
10. Copy formats using the Format Painter
11. Select and change Font and Font Size
12. Find and Replace Text
13. Apply Character Effects (Superscript, Subscript, Strikethrough, Small Caps and Outline)
14. Insert Date and Time
15. Insert Symbols
16. Create and Apply frequently used text with AutoCorrect
17. Change text direction
18. Format Drop Caps

B. WORKING WITH PARAGRAPHS

1. Align text in paragraphs (Center, Left, Right, and Justify)
2. Add Bullets and Numbering
3. Set Character, Line, and Paragraph spacing
4. Apply Borders and Shading to paragraphs
5. Use Indentation Options (Left, Right, First Line, and Hanging Indent)
6. Use Tabs (Center, Decimal, Left, and Right)

7. Create an Outline Style Numbered List
 8. Set Tabs with Leaders
 9. Apply Paragraph and Section Shading
 10. Use text flow options (widow/orphans options and keeping lines together)
 11. Sort lists, paragraphs tables
- C. WORKING WITH DOCUMENTS
1. Print a document
 2. Use Print Preview
 3. Use Web Page Preview
 4. Navigate through a document
 5. Insert Page Numbers
 6. Set Page Orientation
 7. Set Margins
 8. Use Go To to locate specific elements in a document
 9. Create and modify page numbers
 10. Create and modify page borders
 11. Format first page differently than subsequent pages
 12. Use bookmarks
 13. Create and edit styles
 14. Use Find and Replace with formats, special characters and non-printing elements
 15. Balance column length (using column breaks appropriately)
 16. Create or revise footnotes or endnotes
 17. Work with Master Documents and Subdocuments
 18. Create and modify a Table of Contents
 19. Create and modify headers and footers
 20. Align text vertically
 21. Create and use newspaper columns
 22. Revise column structure
 23. Prepare and print envelopes and labels
 24. Apply styles
 25. Create Sections with formatting that differs from other sections
- D. MANAGING FILES
1. Use Save
 2. Locate and open an existing document
 3. Use Save As (different name, location, or format)
 4. Create a folder
 5. Create a new document using a wizard
 6. Save as Web Page
 7. Use templates to create a new document
 8. Create hyperlinks
 9. Use the Office Assistant
 10. Send a word document via e-mail as an attachment
- E. USING TABLES
1. Create and format tables
 2. Add borders and shading to tables
 3. Revise tables (insert and delete rows and columns, change cell formats)
 4. Modify table structure (merge cells, change height and width)
 5. Rotate text in a table
 6. Embed worksheets in a table
 7. Perform calculations in a table

8. Link Excel data as a table
9. Modify worksheets in a table

F. WORKING WITH PICTURES AND CHARTS

1. Use the drawing toolbar
2. Insert graphics into a document (Word-Art, Clip-Art, Images)
3. Format graphics as tight, box, on top, behind, watermark)
4. Add Bitmapped Graphics
5. Delete and position graphics
6. Create and modify charts
7. Import data into charts

G. USING MAIL MERGE

1. Create main document
2. Create data source
3. Sort records to be merged
4. Merge main document and data source
5. Generate labels
6. Merge a document using alternate data sources

H. USING ADVANCED FEATURES

1. Insert a field
2. Create, apply and edit macros
3. Copy, rename, and delete macros
4. Create and modify a form
5. Create and modify a form control (e.g., Add an item to a drop-down list)
6. Use advanced text alignment features with graphics
7. Customize toolbars

I. COLLABORATING WITH WORKGROUPS

1. Insert comments
2. Create multiple versions of a document
3. Track changes to a document

II. MASTERING SPREADSHEETS

A. GETTING STARTED

1. Exploring the excel Work Area
2. Entering Text and Numbers
3. Saving a Workbook
4. Entering a formula
5. Preparing a worksheet for printing
6. Printing a worksheet
7. Closing a file and exiting Excel

B. MODIFYING A WORKSHEET

1. Opening an existing workbook
2. Selecting worksheet items
3. Using auto-fill
4. Inserting and deleting rows and columns
5. Copying and moving cell contents
6. Using Autosum and other automatic functions
7. Copying a formula with relative references
8. Spell-checking a worksheet

C. IMPROVING THE APPEARANCE OF A WORKSHEET

1. Formatting numbers

2. Aligning cell contents
 3. Changing font and font size
 4. Applying bold, italic, and underline
 5. Adding color
 6. Adding borders
 7. Using format painter
 8. Removing formatting
 9. Freezing panes
 10. Show/hide rows, columns, and sheets
- D. ENTERING FORMULAS
1. Working with Operators and Order of Precedence
 2. Using Type-and-Point to enter formulas
 3. Comparing absolute and relative cell references
 4. Creating and copying formulas with absolute or relative cell references
 5. Freezing and splitting the worksheet display
 6. Hiding and unhiding rows and columns
 7. Displaying formulas instead of formula results
 8. Using Save As to change filename, file type or storage location
- E. WORKING WITH FUNCTIONS
1. Analyzing data with SUM, AVERAGE, MAX, MIN, and COUNT
 2. Using IF to display messages
 3. Using IF to calculate
 4. Using NOW to display the current date
 5. Using VLOOKUP to convert data
 6. Using conditional formatting
- F. CREATING AND MODIFYING CHARTS
1. Identifying common Chart Types and Features
 2. Using Chart Wizard to create an embedded pie chart
 3. Using Chart Wizard to create an embedded column chart
 4. Changing the chart type
 5. Charting nonadjacent data series
 6. Modifying chart formats
 7. Adding, Reordering and Deleting a Data Series
 8. Creating and printing a Combination Chart
- G. DEVELOPING A MULTIPLE-SHEET WORKBOOK
1. Copying data from another application
 2. Inserting, moving and renaming worksheets
 3. Editing multiple worksheets simultaneously
 4. Subtotaling data
 5. Linking worksheets
 6. Applying conditional formatting
 7. Using a worksheet to solve a problem
 8. Saving a worksheet with chart as a Web Page
- H. WORKING WITH CUSTOM FORMATS, AUTOFORMATS, STYLES, AND TEMPLATES
1. Inserting and deleting cells
 2. Replacing and rotating text
 3. Creating a custom format
 4. Applying an Auto-Format
 5. Creating and using Styles
 6. Copying a worksheet

7. E-mailing a workbook or worksheet within Excel
8. Creating and using a template
- I. CREATING SPECIAL EFFECTS IN A WORKSHEET
 1. Creating WordArt
 2. Inserting and rotating an AutoShape
 3. Creating a Text Box
 4. Grouping Objects
 5. Adding Emphasis with Lines and Arrows
 6. Adding Emphasis with Callouts
 7. Inserting a graphics file
 8. Embedding sound
- J. SORTING, FILTERING, AND EDITING LISTS
 1. Using an Excel list as a database
 2. Sorting records on the contents of one field
 3. Sorting records on the contents of two or more fields
 4. Using Autofilter with one search condition
 5. Using Custom AutoFilter with OR search criteria
 6. Using custom Autofilter with AND search criteria
- III. INTEGRATING APPLICATIONS
 - A. Linking Excel data to a Word Document
 - B. Embedding Excel data in a Word Document
 - C. Linking Excel data to a PowerPoint Slide
 - D. Linking an Excel chart to a PowerPoint slide
 - E. Importing data from a text file
 - F. Editing an HTML file using Excel
- IV. INTEGRATING WORD PROCESSING AND SPREADSHEET WITH THE INTERNET
 - A. Use the Internet and other sources to interpret data
 - B. Display data visibly

Student Outcomes:

After completing this course, the student will demonstrate the ability to:

- identify parts of an advanced word processing software package screen
- work with multiple documents
- use undo, redo, replace, and show/hide tools and commands
- use templates and wizard
- use the AutoText, AutoCorrect, and AutoFormat features
- use the thesaurus, grammar, hyphenation, language, and word count commands
- insert symbols and special character and understand the use of such characters
- enter and remove passwords
- use the page setup command
- control and apply pagination and character and paragraph formatting
- add bullets and numbering to lists
- add borders and shading to paragraphs
- work with styles
- format in columns
- record and run a word processing macro
- enter page, section, and column breaks
- format fonts and drop caps
- work with fields and sorts

- use the headers, footers, and page number commands
- create, move, edit, format, and split a table
- use sort and formula commands in a table
- use basic and advanced mail merge capabilities
- insert, format, size, crop, and add borders to graphics
- insert objects in a document
- use the drawing toolbar
- use the outline view
- identify parts of an advanced spreadsheet software package screen
- identify and use a range
- create formulas and use functions
- create various graphs to interpret data
- enhance a chart with options
- turn an existing worksheet into a database
- use various techniques to improve the appearance of a worksheet
- change the display and calculation options
- sort and protect ranges
- use various techniques to extract data
- use functions in formulas to look up data
- work with dates and times
- link worksheets
- add annotations to charts, create combination charts, create one-input and two-input data tables
- create, use, and edit spreadsheet macros
- work with multiple worksheets
- link a spreadsheet or chart to a word document

New Jersey Student Learning Standards

CAREER READY PRACTICES

- CRP1 Act as a responsible and contributing citizen and employee.
- CRP2 Apply appropriate academic and technical skills.
- CRP4 Communicate clearly and effectively and with reason.
- CRP8 Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9 Model integrity, ethical leadership and effective management.
- CRP10 Plan education and career paths aligned to personal goals.
- CRP11 Use technology to enhance productivity.

TECHNOLOGY

8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- Strand A. Technology Operations and Concepts
- Strand B. Creativity and Innovation
- Strand C. Communication and Collaboration
- Strand D. Digital Citizenship
- Strand F. Critical Thinking, Problem Solving, and Decision-Making

21ST CENTURY LIFE AND CAREER

Standard 9.2: Career Awareness, Exploration, and Preparation

- Strand C: Career Preparation

Standard 9.3: Career and Technical Education

9.3.12.BM.1 Business Management and Administration: Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.

III. Proficiency Levels

This course is open to grades 10-12.

IV. Methods of Assessment**Student Assessment**

The teacher will provide a variety of assessments. Among them are: quizzes/tests, group projects, simulations, computer projects, homework, and class participation.

Curriculum/Teacher Assessment

The teacher will provide the subject area supervisor with suggestion for changes.

V. Grouping

There are no prerequisites for this course. Keyboarding ability is recommended.

VI. Articulation/Scope & Sequence/Time Frame

This is a half-year course and is offered to grades 10-12.

VII. Resources

Resources include but are not limited to:

Business Math Using Excel by Sharon Burton and Nelda Shelton, Thomson South-Western, 2005

DDC Learning Computer Applications by Lisa Bucki, Pearson Education Inc. 2005

DDC Learning Word Processing by Lisa Bucki, Pearson Education Inc. 2001

DDC Learning Spreadsheets by Lisa Bucki, Pearson Education Inc. 2001

VIII. Methodologies

The following methods of instruction are suggested: lecture, group projects, demonstration, independent student class work, and class presentations.

IX. Suggested Activities

Integrate Internet research into formulating and designing projects utilizing advanced word processing and spreadsheet techniques.

X. Interdisciplinary Connections

This course incorporates real-world math, literacy, and oral presentation skills as well as computer applications. The course follows the 21st Century Framework; incorporating life and career skills, the 4 C's (critical thinking, collaboration, communication, and creativity), and information, media and technology skills.

XI. Differentiating Instruction for Students with Special Needs: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support:

Students with Disabilities

- Use of visual and multi-sensory formats
- Use of assisted technology
- Use of prompts
- Modification of content and student products
- Testing accommodations
- Authentic assessments

Gifted & Talented Students

- Adjusting the pace of lessons
- Curriculum compacting
- Inquiry-based instruction
- Independent study
- Higher-order thinking skills
- Interest-based content
- Student-driven
- Real-world problems and scenarios

English Language Learners

- Pre-teaching of vocabulary and concepts
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Teacher modeling
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding
 - word walls
 - sentence frames
 - think-pair-share
 - cooperative learning groups

XII. Professional Development

The teacher will continue to improve expertise through participation in a variety of professional development opportunities.

Curriculum Map

Class	September/February	October/March	November/April
Advanced Computer Software Systems	Spreadsheets <ul style="list-style-type: none"> ● Create a spreadsheet ● Move within a spreadsheet ● Print a spreadsheet ● Enter information in a spreadsheet ● Work with formulas and quick sums ● Format a spreadsheet ● Apply number and date formats ● Change column widths in a spreadsheet ● Add and remove columns and rows 	Spreadsheets Continued <ul style="list-style-type: none"> ● Adjust column widths ● Add borders and shading to a spreadsheet ● Use copy and move features ● Use fill feature ● Enhance a spreadsheet with automatic formats ● Name spreadsheet ranges ● Use range names in functions ● Apply number and date formats ● Enhance spreadsheets with automatic formats ● Set up print options 	Spreadsheets Continued <ul style="list-style-type: none"> ● Create charts ● Create special effects in a worksheet ● Sort, filter and edit lists ● Sort records on the contents of one field ● Sort records on the contents of two or more fields ● Use custom auto filter with or and searches ● Link and embed Excel data in a word document Word Processing <ul style="list-style-type: none"> ● Work with text ● Work with paragraphs ● Work with documents ● Manage files
	December/May	January/June	
	Word Processing Continued <ul style="list-style-type: none"> ● Create tables ● Modify table structure and rotate tables ● Perform calculations in tables ● Link Excel data as a table ● Work with pictures and charts ● Use the drawing toolbar ● Insert graphics into a document ● Format graphics ● Use mail merge 	Word Processing Continued <ul style="list-style-type: none"> ● Create a main document ● Create a data source ● Sort records to be merged ● Use advanced features ● Insert a field ● Create, apply and edit macros ● Copy, rename, and delete macros ● Customize a toolbar ● Integrating word processing and spreadsheet with the internet for data analysis 	