Computer Applications   (Level 2)

Unit 1: Information Management & Internet Research

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: Information is power in the business world. Managing that information via a variety of technologies is critical to the success of any organization or endeavor. **Essential Questions**: 1. What is digitization and why is it important in daily life? 2. What is a web browser and how is it used to obtain information? 3. What keywords can be applied to enhance an internet search? 4. What is a hyperlink and how can one be created in Microsoft	Students will be able to: 1. Explain the four basic functions of a computer system. 2. Define the internet and explain its origin and evolution. 3. Identify the main computer categories. 4. Display a list of saved links to web pages. 5. Explain what a web browser is and how it is used. 6. Identify advantages and disadvantages of email. 7. Identify four main	• Application software • Browser • Boolean Operators • Cloud Computing • Digital Technology • Email • Graphical User Interface (GUI) • Hypertext Transfer Protocol • Internet • Operating System • Program • Search Engine • Software • Spam • Uniform Resource Locator (URL) • Web Site • Venn Diagram	Textbook: <u>Computer Concepts and Microsoft Office 2010</u>. <u>Course Technology</u>, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics <u>Wall Street Journal</u> And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube,	• Create a WORD document outlining the information management process. • Implement the steps in the Information Management process • Identify key components of internet research and decision making. • Display a list of saved links to web pages. • Conduct internet searches for pertinent information using Boolean Operators. • Create a Venn Diagram to define the parameters of an internet search. • Solve problems independently • Research/Circulate and monitor.

WORD? 5. What is Phishing and why is it dangerous to consumers? 6. How and when was the internet initiated? 7. What are some advantages and disadvantages of email? PA Standards: **15.4.12.A:** Apply the creative and productive use of emerging technologies for educational and personal success. **15.4.12.B:** Evaluate the impact of social, legal, ethical, and safe behaviors on digital citizenship. **15.4.12.C:** Develop criteria for analyzing hardware options to meet defined needs. **15.4.12.D:** Evaluate emerging input technologies. **15.4.12.E:** Analyze the	uses of the internet. 8. Search efficiently for information on the internet. 9. Identify the four steps involved in managing information.		iTunesU Various Apps	• Computer lab assignments/LCD projector instruction. • Summarize, Reflect, Predict. • Complete KWL Charts. • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Engage in application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4)

different operating systems and recommend the appropriate system for specific user needs. **15.4.12.F:** Compare and contrast network environments, including the function of network devices and connectivity issues. **15.4.12.K:** Evaluate advanced multimedia work products and make recommendations based on the evaluation. **15.4.12.M:** Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.			

Computer Applications   (Level 2)

Unit 2: Microsoft WORD

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: A word processing program enables the creation of professional-looking documents including letters, memos, newsletters, research papers, blog posts, business cards, résumés, financial reports, and other documents using sophisticated formatting. **Essential Questions**: 1. What is a word processing program and why is it important in daily life? 2. What is a system clipboard? 3. What is an example of text or a graphic that jumps the reader to a different location or program when clicked?	Students will be able to: 1. Identify the parts of the WORD program window. 2. Start, save, and edit a document. 3. Format text using the mini-toolbar. 4. Create a document using a template. 5. Cut, copy , and paste text. 6. Find and replace text. 7. Check spelling and grammar. 8. Research information. 9. Format text and paragraphs. 10. Change line and paragraph spacing. 11. Add bullets and	• AutoComplete • AutoCorrect • Bibliography • Blog • Border • Bullet • Citation • Cut • Document properties • Field • Floating graphic • Footer • Formatting marks • Header • Highlight • Horizontal ruler • Hyperlink • Inline graphic • Manual page break • Margin • Office Clipboard • Paste • Point	Textbook: <u>Computer Concepts and Microsoft Office 2010</u>. <u>Course Technology</u>, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics <u>Wall Street Journal</u> And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube, iTunesU	• Navigate the WORD program window and identify each of the display elements. • Create a document based on the Gettysburg Address and insert an appropriate clip art picture. • Format, save and print the Gettysburg Address document. • Create a memo using a template and imbed an Excel spreadsheet. • Insert a table into a Word document and use the auto format feature. • Create a résumé. • Combine internet research and word processing skills to write a research paper. • Integrate the Microsoft

4. How can reference sources and information on the internet be researched using a feature in Microsoft WORD? 5. How can a document be searched for misspelled words and grammar errors? **PA Standards**: **15.4.12.G:** Create an advanced digital project using sophisticated design and appropriate software/applications. **15.4.12.K:** Evaluate advanced multimedia work products and make recommendations based on the evaluation. **15.4.12.L:** Find and use primary documentation; employ an accepted protocol for citation.	numbering. 12. Add borders, shading and insert clip art. 13. Set document margins. 14. Create sections and columns. 15. Insert page breaks and numbers. 16. Add headers/ footers and hyperlinks 17. Insert and format a table. 18. Insert citations, manage sources, and create a bibliography.	• Ribbon • Section break • Shading • Shortcut key • Status bar • Style • System Clipboard • Table • Template • Thesaurus • Zoom slider	Various Apps	Office applications in a final project. • Conduct internet searches for pertinent information using Boolean Operators. • Solve problems independently • Research/Circulate and monitor. • Computer lab assignments/LCD projector instruction. • Summarize, Reflect, Predict. • Complete KWL Charts. • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Engage in application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4)

Computer Applications   (Level 2)

Unit 3: Microsoft PowerPoint

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: Presentation software enables the creation of visually dynamic individual slides which can be displayed as a slide show on a computer, video projector or over the internet. **Essential Questions**: 1. What are the components of an effective presentation? 2. What function does the slide layout serve in a presentation? 3. Identify the common design themes used in PowerPoint. 4. How is text formatted	Students will be able to: 1. Define presentation software. 2. Plan an effective presentation. 3. Navigate the PowerPoint window. 4. Add a new slide and enter text. 5. Apply a design theme. 6. Enter text in the Outline tab. 7. Format text. 8. Convert text to SmartArt. 9. Insert and modify shapes. 10. Align and group objects. 11. Insert clip art, text	• Animation tag • Annotate • Background • Crop • Distribute • Group • Masters • Metadata • Mini toolbar • Notes pane • Quick Style • Reading view • Ribbon • Rotate handle • Slide Layout Collection • Slide show view • SmartArt graphic • Table • Template • Transitions • Worksheet • Zoom slider	Textbook: <u>Computer Concepts and Microsoft Office 2010</u>. <u>Course Technology</u>, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics <u>Wall Street Journal</u> And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube,	• Students will navigate the PowerPoint program window and identify each display element. • Create a presentation that incorporates Competencies # 4 through 14. • Integrate the Microsoft Office applications in a final project. • Create a Venn Diagram to define the parameters of an internet search. • Solve problems independently • Research/Circulate and monitor. • Computer lab assignments/LCD projector instruction. • Summarize, Reflect, Predict.

to include shapes, SmartArt and headers/footers? 5. Name the proofing and language tools available in PowerPoint. 6. How are clip art and pictures inserted into a presentation? 7. What are the steps involved in creating and formatting a chart? 8. How are presentations enhanced with transitions and timing features? **PA Standards**: **15.4.12.A:** Apply the creative and productive use of emerging technologies for educational and personal success. **15.4.12.C:** Develop criteria for analyzing hardware options to meet defined needs. **15.4.12.D:** Evaluate emerging input technologies.	boxes, charts, and tables. 12. Set slide transitions and timings. 13. Animate objects. 14. Inspect and evaluate a presentation. 15. Create a template		iTunesU Various Apps	• Complete KWL Charts. • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Engage in application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4)

15.4.12.K: Evaluate advanced multimedia work products and make recommendations based on the evaluation. **15.4.12.M:** Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.			

Computer Applications   (Level 2)

Unit 4: Microsoft Excel

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: Spreadsheet software helps with data analysis and business decision making. Essential Questions: 1. What is the significance of "what-if-analysis in using spreadsheets?" 2. What character begins every formula? 3. Differentiate between absolute and relative cell reference. 4. Name the three ways to edit a cell. 5. What are the two main page orientations? 6. What is a complex formula? 7. What is the underlying	Students will be able to: 1. Navigate the excel window. 2. Identify commonly used keyboard shortcuts. 3. Enter labels and values. 4. Total a range of numbers using the Sum button. 5. Apply formulas to a spreadsheet. 6. Edit cell entries. 7. Choose print options. 8. Switch worksheet views. 9. Insert a function. 10. Copy and move cell entries. 11. Apply relative and absolute cell	• [Ctrl] [Home] • Area • Auto-Complete • Cell • Column • Combination • Conditional formatting • Delete • Dialog box launcher • Drag-and-drop method • Fill handle • Formula • Formula prefix • Line • Merge and Center • Name box • Normal view • Orientation • Pie Chart • Shading • Spelling button • Workbook	Textbook: Computer Concepts and Microsoft Office 2010. Course Technology, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics Wall Street Journal And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube, iTunesU	• Students will navigate the Excel program window and identify each display element. • Create a spreadsheet both from a blank Excel worksheet and a template. • Analyze data using formulas. • Identify key components of a spreadsheet. • Create a budget. • Set up an amortization schedule for a car loan and mortgage. • Solve problems independently • Research/Circulate and monitor. • Computer lab assignments/LCD projector instruction. • Summarize, Reflect,

premise behind conditional formatting? 8. How are chart types created, edited, and changed? **PA Standards**: **15.4.12.A:** Apply the creative and productive use of emerging technologies for educational and personal success. **15.4.12.B:** Evaluate the impact of social, legal, ethical, and safe behaviors on digital citizenship. **15.4.12.C:** Develop criteria for analyzing hardware options to meet defined needs. **15.4.12.D:** Evaluate emerging input technologies. **15.4.12.E:** Analyze the different operating systems and recommend the appropriate system for specific user needs.	references. 12. Change font styles and alignment. 13. Insert and delete rows and columns. 14. Apply colors, patterns and borders. 15. Apply conditional formatting. 16. Rename and move a worksheet. 17. Check spelling. 18. Plan and create a chart. 19. Move and resize a chart. 20. Change the chart design and layout. 21. Format a chart. 22. Annotate and draw on a chart. 23. Create a pie chart.		Various Apps	Predict. • Complete KWL Charts. • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Engage in application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4)

15.4.12.F: Compare and contrast network environments, including the function of network devices and connectivity issues. **15.4.12.K:** Evaluate advanced multimedia work products and make recommendations based on the evaluation. **15.4.12.M:** Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.			

Computer Applications   (Level 2)

Unit 5: Microsoft Access

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: Relational database systems allow for the management of data organized into lists such as information about customers, products, vendors, employees, projects, or sales. **Essential Questions**: 1. What is a relational database and how is it superior to a spreadsheet program in terms of managing data? 2. How is duplicate data minimized in a relational database system? 3. What are the four main objects utilized in Microsoft Access?	Students will be able to: 1. Navigate the Microsoft Access window. 2. Define key terms in Microsoft Access. 3. Understand relational databases. 4. Create a database and table. 5. Enter and edit data and create a primary key. 6. Relate two tables within the same database. 7. Use the Query Wizard to find pertinent information within a database. 8. Sort and find data. 9. Apply AND/OR	• Alignment • Bound control • Calculated control • Criteria • Database designer • Datasheet • Detail section • Detail section • Expression • Field • Field lists • Filter • Form • Form footer section • Formatting • Grouping • Is Null • Query • Query grid • Record • Record source • Report • Section	Textbook: <u>Computer Concepts and Microsoft Office 2010</u>. <u>Course Technology</u>, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics <u>Wall Street Journal</u> And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube, iTunesU	• Students will navigate the Access program window and identify each display element. • Using a common theme, create a database and the design of a table. • Enter and edit data obtained from the internet. • Create a second table within the same database and relate them with a common field. • Using both the Query Wizard and Design feature, obtain pertinent information from the database. • Add new data to the database using forms. • Create a professional report using Report

4. How is a Query used to find pertinent information in a database? 5. What are the typical benefits of using a relational database? 6. How are forms used to enter data? 7. How are Reports created to present data? **PA Standards**: **15.4.12.A:** Apply the creative and productive use of emerging technologies for educational and personal success. **15.4.12.B:** Evaluate the impact of social, legal, ethical, and safe behaviors on digital citizenship. **15.4.12.D:** Evaluate emerging input technologies. **15.4.12.G:** Create an advanced digital project using sophisticated design and appropriate software/applications. **15.4.12.K:** Evaluate advanced multimedia	criteria. 10. Format a datasheet. 11. Use the Form Wizard. 12. Add fields to a form. 13. Create calculations. 14. Modify tab order. 15. Insert an image. 16. Use the Report Wizard. 17. Review report sections. 18. Apply group and sort orders. 19. Add subtotals and counts. 20. Resize and align controls. 21. Format a report. 22. Create mailing labels.	• Sorting • Syntax • Tab order • Table • Wild card	Various Apps	Wizard. • Apply group and sort orders to the data. • Add subtotals, counts, then resize and align controls. • Create mailing labels. • Solve problems independently • Research/Circulate and monitor. • Computer lab assignments/LCD projector instruction. • Summarize, Reflect, Predict. • Complete KWL Charts. • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Engage in application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4)

work products and make recommendations based on the evaluation. **15.4.12.L:** Find and use primary documentation; employ an accepted protocol for citation **15.4.12.M:** Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.			

Computer Applications   (Level 2)

Unit 6: Integration of Microsoft Office Applications

Suggested Duration: about 45 days

Standards, Big Ideas, and Essential Questions	Competencies and Microsoft Office Core Skills	Vocabulary/Content	Instructional Materials	Suggested Activities
Big Idea: When data from multiple Microsoft Office programs are integrated, both a source file and destination file are utilized. **Essential Questions**: 1. What is the difference between pasting, linking, and imbedding data? 2. What are the various commands for pasting, linking, and imbedding? 3. Which object is pasted, by default, as a link in the destination file? 4. How can an Excel worksheet be	Students will be able to: 1. Integrate data among Word, Excel, Access, and PowerPoint. 2. Copy data from Excel to Word. 3. Copy a chart from Excel to Word. 4. Create linked objects. 5. Embed a Word document in Excel. 6. Import an Excel worksheet into Access. 7. Copy a Word table to Access. 8. Link an Access table to Excel and Word. 9. Link an Access table to Word.	• Click to Add • Column headings • Destination file • Destination program • Edit Links • Embedded object • Formatted Text (RTF) • Integration • Link • Linked object • Paste Link • Paste Special • Source file • Update	Textbook: <u>Computer Concepts and Microsoft Office 2010</u>. <u>Course Technology</u>, Cengage Learning Copyright 2013 Unit A-Computer and Internet Basics <u>Wall Street Journal</u> And selected business publications PowerPoint Presentations Excel and WORD Software files Video clips and biographies CNBC, YouTube, iTunesU	• Students will copy data from Excel to Word • Copy a chart from Excel to Word • Create linked objects • Embed a Word file in Excel • Import an Excel worksheet into Access • Copy a Word table to Access • Link an Access table to Excel and Word • Import a Word outline into PowerPoint • Embed an Excel worksheet in PowerPoint • Link Access and Excel objects to PowerPoint • Manage links • Integrate the Microsoft Office applications in a final project

imported into Access? 5. What steps are needed to link an Access table to Excel and Word? 6. How is a Word outline imported into PowerPoint? 7. Does an embedded object contain a link to a source File? Explain. 8. When can changes be made to a linked object and an embedded object in the destination file? PA Standards: **15.4.12.A:** Apply the creative and productive use of emerging technologies for educational and personal success. **15.4.12.D:** Evaluate emerging input technologies. **15.4.12.E:** Analyze the different operating systems and recommend the appropriate system for specific user needs. **15.4.12.F:** Compare and contrast network	10. Import a Word outline into PowerPoint. 11. Embed an Excel worksheet in PowerPoint. 12. Link Access and Excel objects to PowerPoint. 13. Manage links.		Various Apps	• Independent problem solving • Research/Circulate and monitor • Computer lab assignments/LCD projector instruction, Circulate and monitor • Summary, Reflect , Predict • KWL Charts (Know, What, Learn) • Think/pair/share, triads, jigsaw, formal cooperative groups. (DOL 2-3) • Higher level thinking and questioning • Application, problem solving, decision making, experimental inquiry, synthesis/invention, analysis, abstracting, evaluation. (DOL 3-4) • Video clips and biographies

environments, including the function of network devices and connectivity issues. **15.4.12.G:** Create an advanced digital project using sophisticated design and appropriate software/applications. **15.4.12.K:** Evaluate advanced multimedia work products and make recommendations based on the evaluation. **15.4.12.L:** Find and use primary documentation; employ an accepted protocol for citation **15.4.12.M:** Evaluate the impact of emerging technologies on various career paths and provide examples of industry certifications within the field.			