

Computer Keyboarding 3rd Grade

Purpose: It is recommended that in addition to the standards and performance indicators, keyboarding first be taught as a concentrated unit in third grade and reviewed in each succeeding grade to allow students to achieve a high degree of proficiency. Students will be assessed during the spring of their 5th grade year. The assessment will include a keyboarding skill test, a technology literacy self-assessment, and the inclusion of at least two pieces of student work in an electronic portfolio.

Outcome: **KB.3.1** The student will demonstrate correct keyboarding techniques.

Components: **KB.3.1.1** – Sit up straight.

KB.3.1.2 – Center body to the "h" key with elbows at sides.

KB.3.1.3 – Place feet for balance.

KB.3.1.4 – Curve fingers over the home keys.

KB.3.1.5 – Keep wrists off the keyboard.

KB.3.1.6 – Keep eyes on printed copy.

KB.3.1.7 – Key by touch.

Outcome: **KB.3.2** The student will know the purpose of correct keyboarding techniques.

Components: **KB.3.2.1** – Describe limitations of poor techniques.

KB.3.2.2 – List advantages of good techniques.

Purpose: The student will use correct fingering while keying the introduced keys.

Outcome: **KB.3.3** Demonstrate the correct key reaches for all alphabet letters.

Components: **KB.3.3.1** – Use correct keystroke techniques for the letter keys.

Outcome: **KB.3.4** Demonstrate correct fingering for and correct usage of the space bar, enter key, shift keys, backspace/delete key, and tab key.

Components: **KB.3.4.1** – Tap the SPACE BAR with the right thumb.

KB.3.4.2 – Hit the ENTER/RETURN key with the right little finger.

KB.3.4.3 – Use the LEFT SHIFT key when capitalizing right hand letters.

KB.3.4.4 – Use the RIGHT SHIFT key when capitalizing left hand letters.

KB.3.4.5 – Strike the BACKSPACE/DELETE key with the right little finger.

KB.3.4.6 – Tap the TAB key with the left little finger.

Outcome: **KB.3.5** Demonstrate correct fingering for and correct usage of the period, comma, and the question mark.

Components: **KB.3.5.1** – Strike the PERIOD with the right ring finger.

KB.3.5.2 – Strike the COMMA with the right middle finger.

KB.3.5.3 – Key a QUESTION MARK by holding down the left shift key with the left little finger and striking the question mark with the right little finger.

KB.3.5.4 – Demonstrate spacing rules when keying a period.

KB.3.5.5 – Demonstrate correct spacing when keying a comma.

KB.3.5.6 – Demonstrate correct spacing when keying a question mark.

Purpose: The students will key accurately from dictation and printed copy.

Outcome: **KB.3.6** The student will key letters, short words, and phrases from dictation.

Outcome: **KB.3.7** The student will key drills from printed text.

Purpose: The student will demonstrate correct keyboarding techniques with minimum speed and accuracy on 30-second timed writings.

Outcome: **KB.3.8** The students will achieve minimum keyboarding competency on 1-minute timed writings.

Components: **KB.3.8.1** – Key at a minimum of 15 words per minute (WPM) on at least three 1-minute timings.

KB.3.8.2 – Key at 3 or fewer errors on 1-minute timings.

KB.3.8.3 – Key without using the backspace/delete key on timings.

Technique Rating Levels

Mastery Level - The student knows the keys and keys by touch.

Near Mastery Level - With more practice, the student will key by touch.

Partial Mastery Level - The student looks at the keys most of the time.

Minimal Mastery Level - The student is dependent on looking at the keys.

Correct Technique Criteria

- Feet positioned for balance.
- Center body to the "h" key with elbows at sides.
- Sit up straight.
- Curve fingers over the home keys.
- Keep wrists off the keyboard.
- Keep eyes on printed copy.
- Key by touch.
- Key with a smooth rhythm.

Computer Skills 6
6th Grade (9 Week Course)

- Focus: Computer 6 Keyboarding and Computer Application
- Purpose: Students will further develop keyboarding techniques; apply computer applications to aid in their technological knowledge and development.
- Outcome: **C6.1** Students will develop and increase accuracy and speed after completing keyboarding lessons.
- Components: **C6.1.1** – Demonstrate proper hand position and ergonomics.
C6.1.2 – Complete the initial analysis assessment.
C6.1.3 – Analyze lesson assessments for personal improvement, accuracy and technique.
- Outcome: **C6.2** Students will use common word processing applications to create personal and/or business documents (i.e., basic research paper, cover letter).
- Components: **C6.2.1** – Identify the characteristics and features of the word processing software.
C6.2.2 – Change formats of a document, including margins, line spacing, horizontal and vertical alignment, text justification (centered, decimal, left and right aligned), indentations, hanging indents, fonts and styles, font color, and point size.
C6.2.3 – Create numbered and bulleted lists.
C6.2.4 – Create header and footers and insert page numbers.
C6.2.5 – Add pictures, objects, or diagrams to a file and arrange the text around the objects.
C6.2.6 –Use spellcheck, thesaurus, smart tags, autocorrect, autocomplete, and word count feature.
C6.2.7 – Will be exposed to proofreaders’ marks so the student can correct the teacher corrected work.
- Outcome: **C6.3** Students will organize and present information using a presentation program such as PowerPoint.
- Components: **C6.3.1** – Identify and apply the parts of the presentation software: design template, add slides and edit text and copy, delete, or rearrange slides.
C6.3.2 – Apply visual elements [e.g., animation schemes, images/graphics, sound/music, custom animations, transitions], color theory with themes, and understand file formats [e.g., jpegs and gifs].

C6.3.3 – Demonstrate the navigation of a presentation with timings, speaker notes, handouts, and hyperlinks.

Outcome: **C6.4** Students will use formatting skills to demonstrate age appropriate desktop management.

Components: **C6.4.1** – Demonstrate how to create a new folder.

C6.4.2 – Utilize basic desktop management skills, such as delete, rename, copy and move files or folders, and save in multiple environments.

C6.4.3 – Send assignments to the instructor.

C6.4.4 – Apply software trouble-shooting techniques independently (e.g. use the Task Manager).

Outcome: **C6.5** Students will assess their interests, skills and abilities and the application to careers.

Components: **C6.5.1** – Identify interests, skills and abilities about themselves using career software.

C6.5.2 – Investigate careers that may or may not suit their interests.

C6.5.3 – Evaluate results of career survey.

C6.5.4 – Create an electronic portfolio that analyzes the student’s interests, skills and abilities, and self-reflection of education for future career goals.

Outcome: **C6.6** Students will develop a comprehensive understanding of the concept of community and its application to the Internet and will develop an understanding of appropriate use of the Internet and Intellectual Property.

Components: **C6.6.1** – Examine and discuss the Acceptable Use Policy Unit for 301.

C6.6.2 – Examine roles in the cyber community and empower appropriate citizenship.

C6.6.3 – Compare and contrast the difference between the online and the physical community.

C6.6.4 – Students age-appropriately investigate and identify key concepts associated with cyber bullying and learn strategies to avoid it.

C6.6.5 – Examine what “identity” means, the risks that youths face when revealing too much information online.

C6.6.6 – Identify key concepts associated with responsible use on the Internet, focusing on attributes and types of materials, definitions of copyright and plagiarism, and techniques to avoid intellectual property theft and plagiarism.

Computer Skills 7
7th Grade (9 Week Course)

- Focus: Computer 7 Keyboarding and Computer Application
- Purpose: Students will further develop keyboarding techniques and apply computer applications to aid in their technological knowledge and development.
- Outcome: **C7.1** Students will continue developing touch keyboarding skills.
- Components: **C7.1.1** – Demonstrate proper hand position and ergonomics.
C7.1.2 – Complete the initial analysis assessment.
C7.1.3 – Analyze lesson assessments for personal improvement, accuracy and technique.
C7.1.4 – Improve speed and accuracy using proper form.
- Outcome: **C7.2** Students will use common word processing applications to create a research paper with tables and cover page and brochure or newsletter.
- Components: **C7.2.1** – Identify the characteristics and features of the word processing software.
C7.2.2 – Change formats of a document, including margins, line spacing, horizontal and vertical alignment, text justification (centered, decimal, left and right aligned), indentations, hanging indents, fonts and styles, font color, and point size.
C7.2.3 – Identify and apply formatting of characters and paragraphs [e.g., fonts, format painter, undo, redo, text alignment, indent text, line and paragraph spacing, bullets, insert symbols, set tabs, add borders and shading to text/textboxes].
C7.2.4 – Identify and apply formatting and enhancing a document [e.g. find and replace text; cut, copy, and paste text; use clipboard task pane to copy/paste; insert page break; insert page numbers; insert headers and footers; change margins; change page orientation; change views; insert, resize WordArt; use drawing toolbar; add pictures, objects, or diagrams to a file and arrange the text around the objects].
C7.2.5 – Create multi-columned tables and format with color shading and other table properties.
C7.2.6 – Be able to use the spellcheck, thesaurus, smart tags, autocorrect, autocomplete, and word count feature.
C7.2.7 – Will be exposed to proofreaders’ marks so the student can correct the teacher corrected work.

Outcome: **C7.3** Students will use formatting skills to demonstrate age appropriate desktop management.

Components: **C7.3.1** – Demonstrate how to create a new folder.

C7.3.2 – Utilize basic desktop management skills, such as delete, rename, copy and move files or folders, and save in multiple environments.

C7.3.3 – Sends the assignment to the instructor.

C7.3.4 – Apply software trouble-shooting techniques independently (e.g., use the Task Manager).

Outcome: **C7.4** Students will develop a comprehensive understanding of appropriate use of the Internet and Intellectual Property [IP].

Components: **C7.4.1** – Review how to cite a source in proper APA format.

C7.4.2 – Compare and contrast aspects of proper and improper online intellectual property usage.

Outcome: **C7.5** Students will use software application to track, analyze and chart numeric data.

Components: **C7.5.1** – Apply data using skills: enter labels, values, formulas using AutoSum, currency format to values, align labels, use the Go To and Help function, preview and print a document, use relative, absolute and mixed formulas.

C7.5.2 – Apply editing skills to improve appearance: edit contents and formatting of cells; insert or delete cells, rows, and columns; move and copy cells; edit font characters, apply numeric formats and adjust the decimal places, add borders and shading; and find and replace cell entries and formats.

C7.5.3 – Apply visual elements: insert, size or move a picture; create, edit and format charts; insert headers and footers; and change margins.

Outcome: **C7.6** Students will assess their interests, skills and abilities and its application to careers.

Components: **C7.6.1** – Refine the interest and career survey.

C7.6.2 – Analyze the careers that may or may not suit their interests.

C7.6.3 – Organize and categorize data in an electronic portfolio.

Outcome: **C7.7** Students will be able to identify and make responsible choices that will lead to safe Internet experiences.

Components: **C7.7.1** – Examine and discuss the Acceptable Use Policy Unit for 301.

C7.7.2 – Identify and reinforce how to create safe screen names.

C7.7.3 – Investigate cyber-harassment issues; focus on definitions of bullying and stalking as they apply to the Internet, rules, laws and consequences.

C7.7.4 – Investigate the current trends in usage of social-networking sites, safety strategies for social networking, and the positive uses of these activities.

Multimedia
8th Grade (Semester – Elective)

Focus: Computer 8 Multimedia

Purpose: Student will utilize applications for graphics, digital photography, video and web development, analyze software capabilities, troubleshoot issues, develop real world projects and understand Intellectual Property.

Outcome: **MM.1** Students will use photo editing software to create illustrations and discuss application strengths and weaknesses.

Components: **MM.1.1** – Explore the basic functions of the software.

MM.1.2 – Demonstrate skill development.

MM.1.3 – Examine new features and practice proficiency.

MM.1.4 – Investigate how to enhance photos, and apply filters and effects.

MM.1.5 – Capture quality digital photos.

MM.1.6 – Classify file formats for a print and web environment.

Outcome: **MM.2** Students will develop a comprehensive understanding of appropriate use of the Internet and Intellectual Property [IP].

Components: **MM.2.1** – Discuss the definition of Intellectual Property.

MM.2.2 – Compare copyright verses plagiarism.

MM.2.3 – Examine forms of media.

MM.2.4 – Using examples of IP, students will use their current knowledge to determine IP influence on their daily lives (i.e., uses and misuses of IP).

Outcome: **MM.3** Students will develop a movie project using video editing software.

Components: **MM.3.1** – Identify the characteristics and features of the video presentation software.

MM.3.2 – Use sample images and movie clips to develop an understanding of the software.

MM.3.3 – Explain and evaluate the importance of organization and development of a storyboard, and citation of copyright material.

MM.3.4 – Capture quality images using digital cameras, video cameras, the internet, and self-created artwork.

MM.3.4 – Develop and convert video in preparation for upload.

Outcome: **MM.4** Students will design a website using web page software.

Components: **MM.4.1** – Explain the procedure for website set-up.

MM.4.2 – Consider successful and unsuccessful aspects of websites using real-life examples.

MM.4.3 – Examine website navigation.

MM.4.4 – Complete website layout planning using a graphic organizer.

MM.4.5 – Capture, compress and insert images from cameras.

MM.4.6 – Develop a functional web site.

Outcome: **MM.5** Students will use knowledge gained to create business materials and an advertising campaign for a company.

Components: **MM.5.1** – Select a real or fictitious company to market one product or service.

MM.5.2 – Complete Business Plan (i.e., mission statement, contact information, student roles in company etc.).

MM.5.3 – Complete Marketing Plan (i.e., product, target market, where and how to advertise etc.).

MM.5.4 – Use software to design and develop company productions: logo, slogan, business card, magazine ad, pop-up ad, video ad and web site.

MM.5.5 – Discuss layout, message clarity and company professionalism and their relation to each of the company productions.

Keyboarding/Software
Grades 9 – 12

- Focus: Touch keyboarding and software. WP STD 01, 02
- Purpose: Students will learn to operate the keyboard using the touch system and how to use various softwares in an office suite.
- Outcome: **KS.1** Students will demonstrate the correct body and hand position for keyboarding.
- Components: **KS.1.1** – Identify proper hand position and ergonomics.
KS.1.2 – Will sit at their workstation with the correct body and hand position.
KS.1.3 – Complete an initial typing and posture assessment.
KS.1.4 – Will type using the touch system to develop basic keyboarding skills using self-paced evaluative software.
- Outcome: **KS.2** Students will apply the skills necessary for the operating systems network, network security, and file management procedures.
- Components: **KS.2.1** – Will log on to the computer using the student assigned username and password.
KS.2.2 – Will accept and run the virus software when the scan message appears upon log on from either a removable device or the computer.
KS.2.3 – Will start a word processing program and open a new file in word processing or an existing file from the file location.
KS.2.4 – Will create folders to organize and manage their work created on the school's network.
KS.2.5 – Will type filenames that are appropriate in content, structure, and type.
KS.2.6 – Will minimize and resize the window, add tools to the toolbar, pull down menus and commands plus access other open files while working on a file.
- Outcome: **KS.3** Students will develop typing speed with accuracy using coordinated text and software. WP STD 01, 0
- Components: **KS.3.1** – Will practice typing using software which prompts finger movement, hand placement, posture and evaluates the accuracy of the copy typed.
KS.3.2 – Type 3-minute timings from new straight copy with a speed of at least 25 wpm and is 98% accurate.

Outcome: **KS.4** Students will develop touch typing of numbers and symbols using coordinated text and software. WP STD 01, 0

Components: **KS.4.1** – Will practice typing using software which prompts finger movement, hand placement, posture and evaluates the accuracy of the copy typed.

KS.4.2 – Will type numbers with 95% accuracy on new number copy.

KS.4.3 – Will type symbols with 95% accuracy from new number/symbol copy.

Outcome: **KS.5** Students will use common word processing in their documents. 60A.2c

Components: **KS.5.1** – Will change formats of a document, including margins, horizontal and vertical centering, line spacing, vertical and horizontal alignment, tabs (centered, decimal, left and right aligned), indentions, hanging indents, fonts and styles, color of the font, and point size. 60A.1.c

KS.5.2 – Will create numbered and bulleted lists, multi-columned tables and formats. 60A.1.c

KS.5.3 – Will use pictures for bullets, symbols, change the style of numbers for an outline, apply outlined number formats, insert manual page breaks, create headers and footers, insert page numbers, use the date and time command, and move or copy data to another location or file. 60A.1.c

KS.5.4 – Insert watermarks in files, add pictures, objects or diagrams to a file and arrange the text around the objects. 62.B.2

KS.5.5 – Be able to use the spellcheck, thesaurus, smart tags, autocorrect, autocomplete, compare and merge, smart tags, the word count feature on a file. 60A.2c

Outcome: **KS.6** Students will use word processing to create personal and business documents. 60A.2.c

Components: **KS.6.1** – Will prepare and print a memorandum that is 95% accuracy using a template and new document. 3.C.4a

KS.6.2 – Will prepare and print a block-style open punctuation personal and business letters with tables individually and with as a mail merge that are 95% accurate. 3.C.4a, 62.A.1

KS.6.3 – Will create a small and large envelope and print for their personal and business letters using the mail merge feature with 100% accuracy. 3.C.4a

KS.6.4 – Will create labels from names and addresses typed into an address book using the mail merge feature with 100% accuracy. 3.C.4a

KS.6.5 – Will set up tables and calculate the numbers in the table, and format the table with color shading and other table properties with 95% accuracy. 62.A.1

KS.6.6 – Will type unbound and left-bound reports with footnotes, endnotes, graphics, and a title page, using the MLA style for the citations with 95% accuracy. 3.A.5

KS.6.7 – Will explain the importance of citing copyrighted material. 3.A.5

KS.6.8 – Will learn proofreaders' marks so the student can correct the teacher corrected work.

Outcome: **KS.7** Students will create files in spreadsheet form and know when to use spreadsheet software to create files involving lists and numbers. 10.B.5

Components: **KS.7.1** – Will set up, format and print a budget and mailing list as a spreadsheet using the various print settings to improve the appearance of the printed spreadsheet. 62.A.2

KS.7.2 – Will create relative, absolute, and mixed formulas and use function formulas to solve a problem involving budgeting, savings and other applications. 10A.4a

KS.7.3 – Will create and print the appropriate type of chart from the information that is in the spreadsheet and how to enhance the appearance of the chart. 62.B.1

KS.7.4 – Will link the spreadsheet, and copy a spreadsheet and chart to a word document.

KS.7.5 – Will know how to use the error message to correct a formula.

KS.7.6 – Will create a mail merge using name and addresses from a spreadsheet mail list.

Outcome: **KS.8** Students will learn about handwritten recognition and speech recognition software.

Components: **KS.8.1** – Will read about the importance of clear handwritten script on the writing pad for accurate input with handwritten recognition software.

KS.8.2 – Will read about the importance position of the microphone, how to adjust settings, use of the language bar, how to create a profile, enunciation, dictation techniques, speaking commands, and background noise when using speech recognition software.

Outcome: **KS.9** Students will learn how to use database software in their personal life and how business uses them. 10A.4a

Components: **KS.9.1** – Will plan, create, modify and print databases.

KS.9.2 – Will find, sort, filter and arrange data in the database.

KS.9.3 – Will create queries, forms and reports from the database.

KS.9.4 – Will change the table structure and fields in a database.

Outcome: **KS.10** Students will learn how to use advanced features of presentation software. 10A.4a

Components: **KS.10.1** – Will plan and prepare a presentation with transitions and sound based on the purpose of the presentation and listener profile.

KS.10.2 – Will enhance the presentation with graphics from the Internet, digital camera, movie camera or Internet.

KS.10.3 – Will add information or slides from another presentation by linking to the Internet or to other slides or files.

KS.10.4 – Will print the presentation in various forms to meet the needs of the purpose and audience.

KS.10.5 – Research on the Internet a topic of interest in pairs and prepare a presentation that includes at least 10 slides, sound, transitions, and graphics.

KS.10.6 – Pair of students presents their 5-minutes presentation to the class and turn in a handout to the teacher that includes notetaking lines.

Outcome: **KS.11** Students will apply language arts skills to prepare all of the documents created in this class. 3.A.5

Components: **KS.11.1** – Will type spelling error free documents.

KS.11.2 – Will type punctuation and capitalization free documents.

KS.11.3 – Will print grammatically correct sentences.

KS.11.4 – Will print documents that are error free and mailable.

Outcome: **KS.12** Students will learn of postage meters, careers, plagiarism, and ethics. 10.B.3, 10.B.4, 10.B.5

Components: **KS.12.1** – Will read about the postage meters and on-line postage access when preparing letters, envelopes and labels.

KS.12.2 – Will view the USPS.gov web site to go through the steps necessary to obtain postage.

KS.12.3 – Will read about and use on-line resources to survey and explore careers.

KS.12.4 – Results from the on-line questions about career interests and skills, students will evaluate the careers that suit the student's interests and desired life style.

KS.12.5 – Will read and discuss the importance of honesty and ethics in life, friendships, business, and school and how the student’s conduct, written work, and relationships with classmates and teachers exhibit these characteristics.

KS.12.6 – Will list information researched on the Internet from three company websites about their code of ethics or code of conduct.

Keyboarding II
Grades 9 – 12 (Semester – Elective Course)

- Focus: Touch Keyboarding and Document Formatting
- Purpose: Students will further develop their keyboarding skills, apply word processing, and spreadsheet skills, and use the appropriate software to complete the tasks.
- Outcome: **KII.1** Students will demonstrate the correct body and hand position for keyboarding.
- Components: **KII.1.1** – Identify proper hand position and ergonomics.
KII.1.2 – Will sit at their workstation with the correct body and hand position.
KII.1.3 – Complete an initial typing and posture assessment.
KII.1.4 – Will type using the touch system to develop basic keyboarding skills using self-paced evaluative software.
- Outcome: **KII.2** Students will apply the skills necessary for the operating systems network, network security, and file management procedures.
- Components: **KII.2.1** – Will log on to the computer using the student assigned username and password.
KII.2.2 – Will accept and run the virus software when the scan message appears upon log on from either a removable device or the computer.
KII.2.3 – Will start a word processing program and open a new file in word processing or an existing file from the file location.
KII.2.4 – Will create folders to organize and manage their work created on the school's network
KII.2.5 – Will type filenames that are appropriate in content, structure, and type.
KII.2.6 – Will minimize and resize the window, customize their workspace, plus access other open files while working on a file.
- Outcome: **KII.3** Students will improve typing speed with accuracy using coordinated text and software.
- Components: **KII.3.1** – Will show proper response patterns for gaining typing speed.
KII.3.2 – Type 3-minute timings from new straight copy with a speed of at least 45 plus wpm and is 95% accurate.

Outcome: **KII.4** Students will develop touch typing of numbers and symbols using coordinated text and software.

Components: **KII.4.1** – Will practice typing using software which prompts finger movement, hand placement, posture and evaluates the accuracy of the copy typed.

KII.4.2 – Will type numbers with 95% accuracy on new number copy.

KII.4.3 – Will type symbols with 95% accuracy from new number/symbol copy.

Outcome: **KII.5** Students will use common word processing in their documents. 60.A.2c

Components: **KII.5.1** – Will change formats of a document, including margins, horizontal and vertical centering, line spacing, vertical and horizontal alignment, tabs (centered, decimal, left and right aligned) with and without leaders, indentions, hanging indents, fonts and styles, color of the font, and point size.

KII.5.2 – Will create numbered and bulleted lists, multi-columned tables in different formats.

KII.5.3 – Will use pictures for bullets, symbols, change the style of numbers for an outline, apply outlined number formats, insert manual page breaks, create headers and footers, insert page numbers, use the date and time command, and move or copy data to another location or file.

KII.5.4 – Insert watermarks in files, add pictures, objects or diagrams to a file and arrange the text around the objects.

KII.5.5 – Be able to use the spellcheck, thesaurus, smart tags, autocorrect, autocomplete, compare and merge, the word count feature on a file.

Outcome: **KII.6** Students will use word processing to create common personal and business documents. 60.A.2c

Components: **KII.6.1** – Will prepare and print an e-mail and a memorandum that is 98% accuracy using a template and new document.

KII.6.2 – Will prepare and print a block-style personal and business letters with tables individually and with a mail merge that are 98% accurate, including open punctuation, mailing notations, subject lines, copy notation and postscripts.

KII.6.3 – Will type a modified bock style 2-page business letter with open or mixed punctuation, mailing notation, attention line, subject line and postscripts with 98% accuracy.

KII.6.4 – Will create a small and large envelope and print for their personal and business letters using the mail merge feature with 100% accuracy.

KII.6.5 – Will create labels from names and addresses typed into an address book using the mail merge feature with 100% accuracy.

KII.6.6 – Will set up tables and calculate the numbers in the table, and format the table with color shading and other table properties with 100% accuracy.

KII.6.7 – Will type unbound and left-bound reports with footnotes, endnotes, graphics, and a title page, references, or works cited also in the MLA style for the report with 95% accuracy.

KII.6.8 – Will explain the importance of citing copyrighted material.

KII.6.9 – Will continue learning proofreaders' marks so the student can correct the teacher corrected work.

KII.6.10 – Will type and format a news release with 98% accuracy.

KII.6.11 – Will type and format a summary meeting minutes for an unbound report with 98% accuracy.

KII.6.12 – Will create and print an itinerary with 98% accuracy.

KII.6.13 – Will type and format an agenda with 98% accuracy.

KII.6.14 – Will create a multi-column newsletter using the desktop publishing features of the word processing software.

KII.6.15 – Will type with 100% accuracy a cover letter and resume from an example in the textbook and then apply the same principles to creating and typing a personal cover letter and resume.

KII.6.16 – Will complete a production test of mailable memo, e-mail, letter with table and envelope, report with cover page, endnotes, and footnotes in 80 minutes.

Outcome: **KII.7** Students will apply language arts skills to prepared business documents. 3.A.5

Components: **KII.7.1** – Will apply rules of spelling, punctuation and capitalization.

KII.7.2 – Will apply rules when abbreviation and hyphenating words.

KII.7.3 – Will use correct sentence structure in composing, keying, and formatting paragraphs, letters, memorandums, and reports.

Outcome: **KII.8** Students will create an outline in word processing software. 60.A.2c

Components: **KII.8.1** – Will create and print an outline for a report that was typed earlier with 95% accuracy.

KII.8.2 – Will format the outline in one of the various outline numbering styles.

KII.8.3 – Will create their own outline numbering format style.

Outcome: **KII.9** Students will apply language arts skills to prepare all of the documents created in this class. 3.A.5

Components: **KII.9.1** – Will type spelling error free documents.

KII.9.2 – Will type punctuation and capitalization free documents.

KII.9.3 – Will print grammatically correct sentences.

KII.9.4 – Will print documents that are error free and mailable.

Outcome: **KII.10** Students will learn postage meters, careers, plagiarism, and ethics.
10.B.3, 10.B.4, 10.B.5

Components: **KII.10.1** – Will read about the postage meters and on-line postage access when preparing letters, envelopes and labels.

KII.10.2 – Will view the USPS.gov web site to go through the steps necessary to obtain postage.

KII.10.3 – Will read about and use on-line resources to survey and explore careers.

KII.10.4 – Results from the on-line questions about career interests and skills, students will evaluate the careers that suit the student's interests and desired life style.

KII.10.5 – Will read and discuss the importance of honesty and ethics in life, friendships, business, and school and how the student's conduct, written work, and relationships with classmates and teachers exhibit these characteristics.

KII.10.6 – Will list information researched on the Internet from three company websites about their code of ethics or code of conduct.

Computer Applications 2
Grades 9 – 12 (Semester – Elective)

- Focus: Integration techniques for Word, Excel, PowerPoint, Publisher, and Internet research
- Purpose: The students will integrate software applications in the creation of professional projects such as: brochures, Powerpoint presentations, Website creations.
- Outcome: **CA2.1** Students will produce documents using advanced features of word processing software. 60.A.2c
- Components: **CA2.1.1** – Sort single and multi-column lists and tables with tabs, commas, and case sensitive data. 62.A.3
CA2.1.2 – Perform calculations, update calculations, and create formulas in word processing tables. 62.A.3
CA2.1.3 – Customize word processing tables using autofit, text conversions, row heights, cell widths, alignment features, and split cell features. 62.A.1
CA2.1.4 – Use graphing feature to create a chart from the table data, by keying in and importing data. 62.B.2
CA2.1.5 – Create form documents using mail merge features and database features. 62.A.1
CA2.1.6 – Describe the advantages in using advanced formatting features in desktop publishing such as banners, section breaks, non-breaking spaces and hyphens, non-printing elements. 62.A.2
CA2.1.7 – Format graphics including auto shapes using cropping, positioning, and borders. 62.A.1
CA2.1.8 – Create sidebars in a newsletter on a single and multiple pages. 62.A.1
CA2.1.9 – Create pull quotes in a newsletter. 62.A.1
CA2.1.10 – Create shading to paragraphs and sections of a newsletter. 62.A.1
- Outcome: **CA2.2** Students will be able to use advanced features of spreadsheet software.
- Components: **CA2.2.1** – Use auto format and conditional formatting in a spreadsheet. 62.A.2
CA2.2.2 – Apply styles and data validation to data. 62.A.2
CA2.2.3 – Apply enhancements to the appearance of charts. 62.B.1.
CA2.2.4 – Add a data table to a chart. 62.B.1
CA2.2.5 – Change the print preferences when printing a spreadsheet. 62.A.3

CA2.2.6 – Create and edit a data list for records in spreadsheet using sorting and searching techniques. 62.A.3

CA2.2.7 – Manipulate filter features and search operators. 62.A.1

CA2.2.8 – Create lists using the auditing feature, pivot tables and charts, and goal seeker feature. 62.A.1

Outcome: **CA2.3** Students will create presentation software.

Components: **CA2.3.1** – Create slides using design templates and content wizards. 62.B.1

CA2.3.2 – Work with formatting specifics for the content. 62.B.1

CA2.3.3 – Use varied slide layouts. 62.B.1

CA2.3.4 – Add various multimedia elements: Clip art, hyperlinks, transitions. 62.B.1.

CA2.3.5 – Import and imbed other material into the presentation from other software. 62.B.1

CA2.3.6 – Rehearse and time the presentation. 62.B.1

CA2.3.7 – Save the file, send as an e-mail attachment, and use the pack and go feature. 62.B.2

CA2.3.8 – Send the presentation to a word processing software to print the presentation handouts. 62.B.2

Outcome: **CA2.4** Students will be able to use web page design software.

Components: **CA2.4.1** – Create a new web, adding pages as necessary. 62.A.2

CA2.4.2 – Add a theme, banners, and navigation bars to the web pages. 62.A.2

CA2.4.3 – Add and format text. 62.A.2

CA2.4.4 – Add pictures and other graphics to the web pages. 62.A.2

CA2.4.5 – Add a table to a web page. 62.A.2

CA2.4.6 – Add hyperlinks to other web pages and sites. 62.A.2

CA2.4.7 – Publish the web site. 62.A.2

Outcome: **CA2.5** Students will be able to use desktop publishing software.

Components: **CA2.5.1** – Create a letterhead and matching business card adding a logo. 62.A.2

CA2.5.2 – Create a newsletter using word processing files given to them. 62.A.2:

- a. Add header and footer, text boxes, pull quotes, and banners to the newsletter.
- b. Add and format graphics to the newsletter and publish.

CA2.5.3 – Create a menu importing information from a spreadsheet. 62.A.2:

- c. Format the text.
- d. Add graphics and publish.

Outcome: **CA2.6** Students will be able to locate and use appropriate research materials on the Internet.

Components: **CA2.6.1** – Research a topic of their choice using popular search engines. 60.A.3b

CA2.6.2 – Evaluate the authenticity of the information, print and study the material. 60.A.3b

CA2.6.3 – Search for appropriate data to use in a spreadsheet application to support the research information. 60.A.3b

CA2.6.4 – Search for appropriate graphics and sounds to use in the presentation software and on the web pages for the project. 60.A.3b

Outcome: **CA2.7** Students will to integrate all of the window based software.

Components: **CA2.7.1** – Present a research topic in written, oral and presentation form. 60.A.1

CA2.7.2 – Create a presentation about the research topic using appropriate sound, art, animation, video, and numeric data. 60.A.3

CA2.7.3 – Write the rough draft and then edit it about the researched topic. 60.A.3b

CA2.7.4 – Publish selected parts of the paper in a desktop publication handout. 62.A.1

CA2.7.5 – Will prepare and publish web pages about the topic. 62.A.1

CA2.7.6 – Present visually and orally to an audience. 62.A.3

Microsoft Word Certification
Grades 9 – 12 (Semester – Elective)

- Focus: Prepare and learn all formatting features of Word.
- Purpose: Students will prepare products using the best Microsoft Word applications for the purpose.
- Outcome: **MWA.1** Students will apply skills necessary for the operating system they are using.
- Components: **MWA.1.1** – Create folders into which to save their work. 60.A.2c
MWA.1.2 – Analyze the types of files shown in the directory. 60.A.3c
MWA.1.3 – Define the structure of the directories. 60.A.2c
MWA.1.4 – Navigate to the folder they created to access files. 60.B.2
MWA.1.5 – Name files appropriately and save to folders. 60.B.2
MWA.1.6 – Utilize virus software on floppy, CD, or jumpdrive prior to using it. 60.B.1
MWA.1.7 – Copy files to and from other locations such as floppy, CD, or jumpdrive. 60.B.1
MWA.1.8 – Minimize and resize the window, and add appropriate tools to the toolbar. 60.A.3a
- Outcome: **MWA.2** Students will integrate word processing skills with commonly used software.
- Components: **MWA.2.1** – Apply formatting skills to various documents. 60.A.1c
MWA.2.2 – Change margins, line spacing, vertical and horizontal alignment, tabs, and indentions. 60.A.1c
MWA.2.3 – Change the font, styles of fonts, color of the font, and the point size. 60.A.1c
MWA.2.4 – Create numbered and bulleted lists. 60.A.1c
MWA.2.5 – Create multi-columned tables and format the table. 60.A.2
MWA.2.6 – Calculate totals in both the row and column of a table. 60.A.2
MWA.2.7 – Convert text to table format. 60.A.3c
MWA.2.8 – Import a worksheet into a table using the object command. 60.A.3c

Outcome: **MWA.3** The students will manipulate a file and choose appropriate pictures, objects, or diagrams to add to a file.

Components: **MWA.3.1** – Change the bullets to pictures. 62.B.2

MWA.3.2 – Change the style of number and use outlined numbered formats. 62.B.2

MWA.3.3 – Create manual page breaks. 62.B.2

MWA.3.4 – Create appropriate headers and footers. 62.B.2

MWA.3.5 – Insert page numbers and change the page number style and put in date and time into a file. 62.B.2

MWA.3.6 – Move or copy data to another location or file. 62.B.2

MWA.3.7 – Describe use of the change case feature and watermarks in files. 62.B.2

MWA.3.8 – Wrap text around the objects. 62.B.2

MWA.3.9 – Change the picture to fit the needs of the project. 62.B.2

MWA.3.10 – Create and modify a chart from a datasheet. 62.B.2

Outcome: **MWA.4** The students will use the desktop applications of the software.

Components: **MWA.4.1** – Create multi-columned text for a newsletter controlling the orientation of text in a text box. 60.A.3b

MWA.4.2 – Create a multi-columned newsletter with controlled column breaks including non-breaking spaces and non-breaking hyphens. 60.A.3b

MWA.4.3 – Choose borders, page borders, shading and texture to sections of a file. 60.A.3b

MWA.4.4 – Use the drop cap feature in a newsletter. 60.A.3b

MWA.4.5 – Create a sidebar in a newsletter. 60.A.3b

MWA.4.6 – Create a newsletter with pull quotes. 60.A.3b

MWA.4.7 – Create a newsletter with anchored pictures/objects. 60.A.3b

Outcome: **MWA.5** The students will be able to use the spellcheck feature, thesaurus, smart tags, and automatic features of the software.

Components: **MWA.5.1** – Integrate the use of spellcheck, add words to the dictionary, and accept non-dictionary words. 60.A.2c

MWA.5.2 – Choose appropriate situations to use the thesaurus to locate better words for the sentence. 60.A.2c

MWA.5.3 – Incorporate the autocorrect and “autocomplete” features of the software. 60.A.2c

MWA.5.4 – Describe the use of compare and merge feature of the software. 60.A.2c

MWA.5.5 – Identify smart tags as necessary in the files. 60.A.2c

MWA.5.6 – Find and replace special formats, characters, and other nonprinting elements to a document. 60.A.2c

MWA.5.7 – Add symbols where needed in the text of the files. 60.A.2c

MWA.5.8 – Describe the importance of the word count feature on a file. 60.A.2c

Outcome: **MWA.6** The students will be able to access the mail merge features of the software both through the commands and the taskpane.

Components: **MWA.6.1** – Create letters using the mail merge feature. 60.A.3c

MWA.6.2 – Create envelopes using the mail merge feature. 60.A.3c

MWA.6.3 – Create labels using the mail merge feature. 60.A.3c

MWA.6.4 – Create a directory/catalog using the mail merge feature. 60.A.3c

MWA.6.5 – Create a form letter inserting customized merge fields into the document. 60.A.3c

MWA.6.6 – Demonstrate how to reveal the font styles and formatting of a file. 60.A.2c

MWA.6.7 – Apply styles, i.e. Heading 1, 2, etc., to their files through the command or taskpane. 60.A.2c

MWA.6.8 – Utilize footnotes and endnotes to files. 60.A.2c

MWA.6.9 – Sort ascending and descending lists in a file. 60.A.2c

MWA.6.10 – Create a fax cover sheet from a template. 60.A.2c

MWA.6.11 – Create a letterhead template. 60.A.2c

MWA.6.12 – Create an e-mail template. 60.A.2c

MWA.6.13 – Create a memo template. 60.A.2c

Outcome: **MWA.7** The students will be able to navigate through a document.

Components: **MWA.7.1** – Open the document map of a file and identify the location in a file. 60.A.2c

MWA.7.2 – Create a hyperlink to a new location. 60.A.2c

MWA.7.3 – Edit the hyperlink in the file. 60.A.2c

MWA.7.4 – Add a bookmark to jump quickly to a spot in the file. 60.A.2c

MWA.7.5 – Turn on track changes feature of the software. 60.A.2c

MWA.7.6 – Merge revisions from multiple documents. 60.A.2c

MWA.7.7 – Insert, edit, and view comments in a document. 60.A.2c

Outcome: **MWA.8** The students will be able to create forms and work with web documents.

Components: **MWA.8.1** – Create a form using online text form fields. 60.A.3c

MWA.8.2 – Modify a form using the form controls. 60.A.3c

MWA.8.3 – Create a drop-down field in a form. 60.A.3c

MWA.8.4 – Create a check box form field in a form. 60.A.3c

MWA.8.5 – Add help text to a form field in a form. 60.A.3c

MWA.8.6 – Add form controls to a web page. 60.A.3c

Microsoft Excel Certification
Grades 9 – 12 (Semester – Elective)

Focus: Spreadsheets and charts.

Purpose: Students will prepare products using the best Microsoft Excel applications for the purpose.

Outcome: **MEC.1** Students will design and create spreadsheets with alpha/numeric data.
 10.A.4a

Components: **MEC.1.1** – Compare the advantages for using a spreadsheet in the creation of a budget and a mailing list.
MEC.1.2 – List the similarities of word processing and the spreadsheet software.
MEC.1.3 – Compare the commands in word processing and spreadsheets.
MEC.1.4 – Add pictures, graphics, autoformat, and other techniques to enhance the appearance of a spreadsheet.
MEC.1.5 – Apply procedures for inputting, editing and formatting cell contents.
MEC.1.6 – Apply various cell formats to enhance the readability of the printed spreadsheet.
MEC.1.7 – Create and protect templates to use with a spreadsheet and interactive web project.
MEC.1.8 – Create spreadsheets and analyze data with subtotals, advanced filters, grouping and outlining, data validation, scenarios, and PivotTable and PivotChart reports.

Outcome: **MEC.2** Students will use existing files to create formulas. 10.A.4a

Components: **MEC.2.1** – Describe the various procedures for inputting, editing, and formatting formulas.
MEC.2.2 – Write relative, absolute, and mixed formulas to perform specific computations in a file.
MEC.2.3 – Copy the formulas to adjacent and non-adjacent cells.
MEC.2.4 – Write the formulas cognizant of the order of operations of the operators in the formula.
MEC.2.5 – Describe the use of *autosum* tool for the common formulas.
MEC.2.6 – Analyze the error message in order to edit a formula.
MEC.2.7 – Use the trace precedents, dependents and invalid data and formulas.

MEC.2.8 – Examine the advanced function formulas.

MEC.2.9 – Demonstrate the use of the function dialog box to find the appropriate function formula for a problem.

MEC.2.10 – Choose the appropriate function formula for a given problem.

Outcome: **MEC.3** Students will create printed spreadsheets and integrate spreadsheets into printed word processing documents. 10.B.5

Components: **MEC.3.1** – Center both vertically and horizontally a printed spreadsheet.

MEC.3.2 – Print a spreadsheet with the gridlines.

MEC.3.3 – Print the row numbers and column letters on a printout.

MEC.3.4 – Print a spreadsheet with noncontiguous data on one sheet and an entire workbook.

MEC.3.5 – Edit the chart to enhance formatting of the chart appearance.

MEC.3.6 – Copy a spreadsheet and/or a chart to a word file.

MEC.3.7 – Link a spreadsheet and/or a chart to a word file.

MEC.3.8 – Create mail merge using spreadsheet information.

MEC.3.9 – Proofread and determine the correctness of the spreadsheet and word software integration results.

MEC.3.10 – Demonstrate the proper formatting of the integrated material.

Outcome: **MEC.4** Students will create charts from the spreadsheets and enhance the appearance of the chart. 10.A.4a

Components: **MEC.4.1** – Create the appropriate type of chart from existing spreadsheets.

MEC.4.2 – Change the type of chart.

MEC.4.3 – Add chart options, i.e. rounded corners, pictures and markers.

MEC.4.4 – Enhance the appearance of the chart formatting chart text, changing color of elements of the chart, and formatting the background.

MEC.4.5 – Add a data table to the chart.

Outcome: **MEC.5** Students will use the existing spreadsheet data as a data list. 10.A.4a

Components: **MEC.5.1** – Add, edit, and search records of a data list using a data form dialog box.

MEC.5.2 – Import data from other data sources and export Excel data to other programs and the web.

MEC.5.3 – Filter and extract data from a file.

MEC.5.4 – Create scenarios and audit the data.

MEC.5.5 – Create PivotList and PivotTable reports and PivotCharts.

MEC.5.6 – Create interactive PivotTables for the web.

MEC.5.7 – Will use Goal Seek to find the values needed in a “what if” analysis.

MEC.5.8 – Create interactive templates for the web.

MEC.5.9 – Will protect cells, worksheets, and workbooks.

Outcome: **MEC.6** Students will customize Excel. 10.A.4a

Components: **MEC.6.1** – Customize workspace based on need.

MEC.6.2 – Create, edit and run Macros.

MEC.6.3 – Will modify Excel default settings.

Website Design 1
Grades 11 – 12 (Semester – Elective)

- Focus: Basic Web Site Development
- Purpose: Students will design, create, maintain and publish web pages and sites in basic HTML and web development software.
- Outcome: **WEB1.1** Students will demonstrate knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web (WWW) and markup languages.
- Components: **WEB1.1.1** – Illustrate the relationship of Web design terms to Web designs and software applications.
WEB1.1.2 – Navigate successfully between uniform resource locator (URL) links.
WEB1.1.3 – Evaluate and apply standard path/file name structure.
- Outcome: **WEB1.2** Students will evaluate the relationship between Web site and Web page design.
- Components: **WEB1.2.1** – Analyze a Web site structure.
WEB1.2.2 – Distinguish between the Web site layout and individual page layouts.
WEB1.2.3 – Evaluate storyboarding to illustrate/plan a Web site layout.
WEB1.2.4 – Analyze navigation concepts to guide the user experience.
- Outcome: **WEB1.3** Students will identify essential issues in planning, developing, and maintaining a Web site, including project management, testing, publishing, navigation, accessibility, and legal issues.
- Components: **WEB1.3.1** – Plan a web site.
WEB1.3.2 – Implement a web site development plan.
WEB1.3.3 – Maintain a web site.
WEB1.3.4 – Incorporate basic levels of accessibility and sensitivity in created web pages.
WEB1.3.5 – Incorporate various web site design requirements, such as might be specified by a customer or employer.
WEB1.3.6 – Publish (i.e., upload) web pages and sites to a web server.

Outcome: **WEB1.4** Students will use basic HTML and web development software to create a web page containing text, including hyperlinks, and tables.

Components: **WEB1.4.1** – Display paragraph text.

WEB1.4.2 – Create, organize and edit text hyperlinks.

WEB1.4.3 – Create, organize and manipulate tables using the appropriate HTML tags and other markup language tags.

WEB1.4.4 – Create unordered and ordered lists.

WEB1.4.5 – Create, apply, and edit cascading style sheets.

WEB1.4.6 – Create a navigation bar.

Outcome: **WEB1.5** Students will use basic HTML and web development software to include images and colors on web pages.

Components: **WEB1.5.1** – Create, display and alter images on a web page.

WEB1.5.2 – Create image hyperlinks on a web page.

WEB1.5.3 – Create a navigation bar using images.

WEB1.5.4 – Customize the color and general appearance of a web page.

Outcome: **WEB1.6** Students will evaluate Web page construction.

Components: **WEB1.6.1** – Evaluate the importance of effective Web page layout, including proper use of color (e.g., the browser-safe colors) and fonts in Web page design.

WEB1.6.2 – Evaluate the concept of graphic images in Web design.

WEB1.6.3 – Manipulate white space, borders, and alignments to enhance the layout and look of a Web page.

Website Design 2
Grades 11 – 12 (Semester – Elective)

Focus: Advanced Web Site Development

Purpose: Students will design, create, maintain and publish web pages and sites in basic HTML and web development software.

Outcome: **WEB2.1** Students will use basic HTML to create frames on a Web Page.

Components: **WEB2.1.1** – Define terms related to frames.

WEB2.1.2 – Describe the steps used to design a frame structure.

WEB2.1.3 – Plan and lay out a frameset.

WEB2.1.4 – Create a frame definition file.

WEB2.1.5 – Use the <FRAMESET> and <FRAME> tags.

WEB2.1.6 – Change frame scrolling options and name a frame content target.

WEB2.1.7 – Identify Web pages to display at startup.

WEB2.1.8 – Set frame rows and columns.

WEB2.1.9 – Create a header page with an image and text, navigation page, and a home page.

Outcome: **WEB2.2** Students will use basic HTML to create forms on a web page.

Components: **WEB2.2.1** – Define terms related to forms.

WEB2.2.2 – Describe the different form controls and their uses.

WEB2.2.3 – Use the <FORM> AND <INPUT> tags.

WEB2.2.4 – Create radio buttons, text fields, and text area fields.

WEB2.2.5 – Use the <SELECT> and the <OPTION> tag.

WEB2.2.6 – Create a selection menu.

WEB2.2.7 – Insert options into a selection menu.

WEB2.2.8 – Create a Submit and Reset buttons.

Outcome: **WEB2.3** Students will use basic HTML to work with Style Sheets.

Components: **WEB2.3.1** – Describe the three different types of cascading style sheets.

WEB2.3.2 – Add an embedded style sheet to a Web page that changes the link styles.

WEB2.3.3 – Add an external style sheet that changes the background, link styles, paragraph text, and table styles.

WEB2.3.4 – Use the <LINK> tag to insert a link to an external style sheet.

WEB2.3.5 – Add an inline style sheet to a Web page that changes the text style.

WEB2.3.6 – Understand how to define style classes.

Outcome: **WEB2.4** Students will integrate JavaScript and HTML on a Web page.

Components: **WEB2.4.1** – Insert <SCRIPT> tags.

WEB2.4.2 – Write start and end <SCRIPT > tags.

WEB2.4.3 – Set the background color of a Web page using JavaScript.

WEB2.4.4 – Discuss JavaScript variables.

WEB2.4.5 – Extract the system date.

WEB2.4.6 – Use several variables to construct a message.

WEB2.4.7 – Write a user-defined function that displays a message and links visitors to a new Web site.

WEB2.4.8 – Use the last Modified property to display the last modified document date.

Outcome: **WEB2.5** Students will use web development software to plan, develop and maintain a web site (i.e. work with text and graphics, links, tables, navigation, testing and publishing, etc.).

Components: **WEB2.5.1** – Plan a web site.

WEB2.5.2 – *Create a web site.*

WEB2.5.3 – *Maintain a web site.*

Outcome: **WEB2.6** Students will understand the Macromedia Flash environment.

Components: **WEB2.6.1** – Open a document and play a movie.

WEB2.6.2 – *Create and save a movie.*

WEB2.6.3 – *Work with the timeline.*

WEB2.6.4 – *Plan a Web site.*

WEB2.6.5 – *Distribute a Macromedia Flash movie.*

Outcome: **WEB2.7** Students will draw objects in Macromedia Flash.

Components: **WEB2.7.1** – Use the Macromedia Flash Drawing Tools.

WEB2.7.2 – *Select objects and apply colors.*

WEB2.7.3 – *Work with objects.*

WEB2.7.4 – *Work with text and text objects.*

WEB2.7.5 – Work with layers and objects.

Outcome: **WEB2.8** Students will work with symbols and interactivity.

Components: **WEB2.8.1** – Create symbols and instances.

WEB2.8.2 – Work with libraries.

WEB2.8.3 – Create buttons.

WEB2.8.4 – Assign actions to buttons.

Outcome: **WEB2.9** Students will create animations.

Components: **WEB2.9.1** – Create frame-by-frame animations.

WEB2.9.2 – Create motion-tweened animation.

WEB2.9.3 – Work with motion guides.

WEB2.9.4 – Create animation effects.

WEB2.9.5 – Animate text.

Outcome: **WEB2.10** Students will create special effects.

Components: **WEB2.10.1** – Create shape between animations.

WEB2.10.2 – Create a mask effect.

WEB2.10.3 – Add sound.

WEB2.10.4 – Add scenes.

WEB2.10.5 – Create an animated navigation bar.

Outcome: **WEB2.11** Students will understand the Fireworks environment.

Components: **WEB2.11.1** – *Work with new and existing documents.*

WEB2.11.2 – Work with bitmap images.

WEB2.11.3 – Create shapes.

WEB2.11.4 – Create and modify text.

Outcome: **WEB2.12** Students will work with objects in the Fireworks environment.

Components: **WEB2.12.1** – Work with vector tools.

WEB2.12.2 – Modify multiple vector objects.

WEB2.12.3 – Modify color.

WEB2.12.4 – Apply filters to objects and text.

WEB2.12.5 – Apply a style to text.

Outcome: **WEB2.13** Students will import, select and modify graphics.

Components: **WEB2.13.1** – Work with imported files.

WEB2.13.2 – Work with bitmap selection tools.

WEB2.13.3 – Learn about selection areas.

WEB2.13.4 – Select areas based on color.

Outcome: **WEB2.14** Students will integrate Dreamweaver, Fireworks and Flash.

Components: **WEB2.14.1** – Place Fireworks images into Dreamweaver.

WEB2.14.2 – Edit Fireworks Images from a Dreamweaver document.

WEB2.14.3 – Insert and edit Macromedia Flash movies in Dreamweaver.

Visual Basic 1
Grades 11 – 12 (Semester – Elective)

- Focus: Basic Visual Basic Programming
- Purpose: Students will plan, design, create and debug applications using Visual Basic programming tools.
- Outcome: **VB1.1** Students will demonstrate knowledge of the basic programming concepts and examine the Visual Studio’s integrated development and windows environment.
- Components: **VB1.1.1** – Define Microsoft Visual Basic and identify the common features of Windows applications.
VB1.1.2 – Identify and use the basic tools in the Visual Studio .Net integrated development environment.
VB1.1.3 – Design a form and add objects to it.
VB1.1.4 – Explain the meaning of “event-driven” and write code for an event procedure.
VB1.1.5 – Understand and use the Help system.
- Outcome: **VB1.2** Students will design and create a form and add controls and code.
- Components: **VB1.2.1** – Customize the look and feel of a form.
VB1.2.2 – Create forms that react to user events such as clicking a button and pressing a key.
VB1.2.3 – Use the OpenFileDialog control.
VB1.2.4 – Understand and use the various data types.
VB1.2.5 – Use variables and pass information from one part of the project to another.
VB1.2.6 – Implement the If statement in program code to make decisions.
VB1.2.7 – Use logical expressions and relational operators.
VB1.2.8 – Place the GroupBox control to arrange RadioButton control on a form.
VB1.2.9 – Use the TabIndex property to control the order in which controls receive focus.
VB1.2.10 – Import graphics to a form.

Outcome: **VB1.3** Students will create menus, multiple document interfaces and simple loops.

Components: **VB1.3.1** – Design a menu bar with menus and submenus.

VB1.3.2 – Plan and document an application.

VB1.3.3 – Use MDI forms.

VB1.3.4 – Use For loops to write programs.

Outcome: **VB1.4** Students will use decisions, looping, arrays and searching to create window applications.

Components: **VB1.4.1** – Plan the solution to a programming problem.

VB1.4.2 – Understand and apply the rules of logic to complex True/False expressions.

VB1.4.3 – Write advanced If-Then-Else End if statements.

VB1.4.4 – Write Do-While and Do-Until statements.

VB1.4.5 – Create program loops that depend on logical expressions.

VB1.4.6 – Declare and use arrays.

VB1.4.7 – Use built-in functions for a variety of tasks.

Outcome: **VB1.5** Students will improve the user interface to help in communicating with the user.

Components: **VB1.5.1** – Use several variations of the message box and input box objects.

VB1.5.2 – Understand how to use Visual Basic's built-in constants.

VB1.5.3 – Implement pop-up menus.

VB1.5.4 – Add a toolbar to your project.

VB1.5.5 – Use the Common Dialog controls to improve your program's user interface.

Visual Basic 2
Grades 11 – 12 (Semester – Elective)

- Focus: Advanced Visual Basic Programming
- Purpose: Students will plan, design, create and debug applications using Visual Basic programming tools.
- Outcome: **VB2.1** Students will use Visual Basic tools with database programming.
- Components: **VB2.1.1** – Explain what a database is and how to use it.
VB2.1.2 – Build an ODBC Data Source Name from an Access database.
VB2.1.3 – Link a database to a Visual Basic application.
VB2.1.4 – Design an application to display records of a database using the DataGrid Control.
VB2.1.5 – Design an application to display a single record of a database by binding the fields of the database to text boxes.
VB2.1.6 – Apply user-defined data types (UDTs) in an application.
VB2.1.7 – Use a sequential file to store data from an array of a user-defined data type.
- Outcome: **VB2.2** Students will use the appropriate tools to solve programming errors and write simple classes.
- Components: **VB2.2.1** – Use breakpoints and Watch windows to locate program errors.
VB2.2.2 – Use the Immediate window to check and change values.
VB2.2.3 – Check a program’s logic by stepping through the program one line at a time.
VB2.2.4 – Use the Try-Catch-Finally statements to trap run-time errors.
VB2.2.5 – Write a simple class and use it in an application.
- Outcome: **VB2.3** Students will use programming tools to design and create classes and objects.
- Components: **VB2.3.1** – Use the Object Browser to explore classes and objects.
VB2.3.2 – Design and create classes.
VB2.3.3 – Use class modules to declare and use objects.
VB2.3.4 – Add methods, events, and properties to classes.

Outcome: **VB2.4** Students will explore all kinds of collections in Visual Basic.

Components: **VB2.4.1** – Add and modify members of Visual Basic’s Controls collection.

VB2.4.2 – Add and delete toolbar buttons in response to user input.

VB2.4.3 – Enable and disable toolbar buttons in response to user input.

VB2.4.4 – Create a collection of objects.

VB2.4.5 – Create a collection of collections.

VB2.4.6 – Iterate through collection hierarchies to get and set object property values.

VB2.4.7 – Display and explain the object model of the created classes.

Outcome: **VB2.5** Students will use special controls to enhance the user interface.

Components: **VB2.5.1** – Use special controls appropriately in programs to enhance the user interface.

VB2.5.2 – Add the TrackBar control to provide graphical user input into an application.

VB2.5.3 – Use the ListView control to display data in a variety of formats.

VB2.5.4 – Add a StatusBar control to display messages to the user.

VB2.5.5 – Use a TreeView control to display hierarchically arranged information.

VB2.5.6 – Apply recursion to process the nodes in a TreeView control.

VB2.5.7 – Use the DateTimePicker to enter dates into an application.

Outcome: **VB2.6** Students will build and use a user control.

Components: **VB2.6.1** – Build a new user control.

VB2.6.2 – Access the properties of a user control.

VB2.6.3 – Test the user control in an application.

VB2.6.4 – Make a user control available to other applications.

VB2.6.5 – Enhance an existing control, and package it as a new user control.

VB2.6.6 – Create a custom, user-drawn control.

Computer Networking and Hardware
Grades 11 – 12 (Full Year Class)

- Focus: Computer repair and network set-up.
- Purpose: Designed to prepare students with work-related skills and for certification in the computer service technician career path. Content provides students the opportunity to acquire knowledge and skill in both theory and practical applications pertaining to troubleshooting, replacing, installing, and upgrading computers. Procedures used in the course may be hardware oriented, software oriented, or programming oriented procedures. Upon completion of the course students will possess a thorough knowledge of modern personal computer hardware and software structure and be able to take the A + Certification exam.
- Outcome: **CNH.1** Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.
- Components: **CNH.1.1** – Exhibit positive leadership skills.
CNH.1.2 – Assess situations and apply problem-solving and decision-making skills to particular client relations in the community and workplace.
CNH.1.3 – Demonstrate the ability to work cooperatively with others in a professional setting.
- Outcome: **CNH.2** Students will demonstrate an understanding of basic electronic theory and learn to use basic electrical measuring equipment.
- Components: **CNH.2.1** – Define the relationship given by Ohm’s Law.
CNH.2.2 – Define the relationship given by the formula for electric power.
CNH.2.3 – Describe the significant differences between alternating current (AC) and direct current (DC).
CNH.2.4 – Define the relationship between the individual resistances in a circuit and the total resistance.
CNH.2.5 – Measure voltages, current, and resistance using a digital multi-meter (DMM).
CNH.2.6 – Demonstrate proper soldering techniques.
- Outcome: **CNH.3** Students will be able to make, verify, and troubleshoot electrical connections of a computer system.

Components: **CNH.3.1** – Make, verify, and troubleshoot connections of a computer power supply.

CNH.3.2 – Make, verify, and troubleshoot connections of multimedia components in a computer system.

CNH.3.3 – Make, verify, and troubleshoot connections of data cables in a computer system (e.g., drives, network, USB, serial, printer).

CNH.3.4 – Make, verify, and troubleshoot connections of video cables in a computer system.

Outcome: **CNH.4** Students will perform the necessary steps to identify, install, configure, and upgrade personal computer modules and peripherals.

Components: **CNH.4.1** – Comprehend terms, concepts, and functions of system modules.

CNH.4.2 – Demonstrate basic procedures for adding and removing field replaceable modules for both desktop and portable systems.

CNH.4.3 – Identify available IRQ, Direct Memory Access (DMA), and I/O addresses and procedures for device installation and configuration.

CNH.4.4 – Evaluate common peripheral ports, associated cabling, and connectors.

CNH.4.5 – Analyze proper procedures for installing and configuring IDE/EIDE devices.

CNH.4.6 – Evaluate proper procedures for installing and configuring small computer system interface (SCSI) devices.

CNH.4.7 – Evaluate procedures for installing and configuring peripheral devices.

CNH.4.8 – Explore hardware methods of upgrading system performance, procedures for replacing basic subsystem components, unique components and when to use them.

Outcome: **CNH.5** Students will perform diagnostic operations of hardware and software.

Components: **CNH.5.1** – Research common symptoms and problems associated with each module.

CNH.5.2 – Evaluate troubleshooting procedures.

CNH.5.3 – Elicit problem symptoms from customers.

Outcome: **CNH.6** Students will demonstrate knowledge of safety and preventive maintenance skills.

Components: **CNH.6.1** – Research the purpose of various types of preventive maintenance products and procedures.

CNH.6.2 – Research issues, procedures and devices for protection within the computing environment, including people, hardware and the surrounding workspace.

CNH.6.3 – Evaluate potential hazards to personnel and equipment when working with lasers, high voltage equipment, ESD, and items that require special disposal procedures.

Outcome: **CNH.7** Students will analyze specific terminology, facts, ways and means of dealing with classifications, categories, and principles of motherboards, processors, and memory in microcomputer systems.

Components: **CNH.7.1** – Distinguish between the popular CPU chips in terms of their basic characteristics.

CNH.7.2 – Evaluate the categories of RAM (Random Access Memory) terminology, their locations, and physical characteristics.

CNH.7.3 – Analyze the most popular type of motherboards, their components, and their architecture bus structures and power supplies.

CNH.7.4 – Evaluate the purpose of CMOS (Complementary Metal-Oxide Semiconductor), what it contains, and how to change basic parameters.

Outcome: **CNH.8** Students will research printer types, concepts, and components.

Components: **CNH.8.1** – Research basic concepts, printer operations, and printer components.

CNH.8.2 – Analyze care and service techniques for primary printer types.

CNH.8.3 – Evaluate common problems associated with primary printer types.

Outcome: **CNH.9** Students will demonstrate an understanding of the fundamentals of networking and how networking components interact.

Components: **CNH.9.1** – Differentiate a wide area network (WAN) and local area network (LAN).

CNH.9.2 – Compare and contrast a server, workstation, host, and client.

CNH.9.3 – Analyze server-based networking and peer-to-peer networking.

CNH.9.4 – Evaluate the characteristics of star, bus, mesh, and ring topologies, their advantages and disadvantages.

CNH.9.5 – Research the characteristics of segments and backbones.

CNH.9.6 – Define flow control and describe basic methods used in networking.

CNH.9.7 – Compare the advantages and disadvantages of coax, Cat 3, Cat 5, fiber optic, UTP, and STP, and the conditions under which they are appropriate.

CNH.9.8 – Recognize the visual appearance of RJ45 and BNC and how they are crimped.

Outcome: **CNH.10** Students will analyze underlying DOS (Command prompt functions) in, Windows 2000, XP, VISTA and future operating systems in terms of its functions and structure.

Components: **CNH.10.1** – Compare the following operating system’s functions, structure, and major system files to navigate the operating system and get to needed technical information: Windows 2000, XP, VISTA
Command Prompt Procedures (Command syntax)

CNH.10.2 – Analyze basic concepts and procedures for creating, viewing and managing files, directories and disks. This includes procedures for changing file attributes and the ramifications of those changes (for example, security issues).

Outcome: **CNH.11** Students will install, configure, and upgrade Windows XP, Vista, and future operating systems.

Components: **CNH.11.1** – Demonstrate procedures for installing Windows XP and Vista for bringing the software to a basic operational level.

CNH.11.2 – Demonstrate steps to perform an operating system upgrade.

CNH.11.3 – Perform basic system boot sequences and boot methods, including the steps to create an emergency boot disk with utilities installed for Windows XP, Vista.

CNH.11.4 – Demonstrate procedures for loading/adding and configuring application device drivers, and necessary software for certain devices.

Outcome: **CNH.12** Students will diagnose and troubleshoot common problems relating to Windows XP, Vista and future operating systems.

Components: **CNH.12.1** – Recognize and interpret the meaning of common error codes and startup messages from the boot sequence, and identify steps to correct the problems.

CNH.12.2 – Analyze common problems and determine how to resolve them.

Outcome; **CNH.13** Students will evaluate basic concepts relating to Internet access and generic procedures for system setup.

Components: **CNH.13.1** – Identify the networking capabilities of Windows including procedures for connecting to the network.

CNH.13.2 – Identify concepts and capabilities relating to the Internet and basic procedures for setting up a system for Internet access.

Outcome: **CNH.14** Students will analyze the TCP/IP family of protocols, IP addressing and address classifications, and name-resolution services available.

Components: **CNH.14.1** – Differentiate Outcome protocols and research their advantages and disadvantages.

CNH.14.2 – Explain the concept of IP default gateways and the purpose and use of dynamic host configuration protocol (DHCP), domain name service (DNS), Windows Internet Naming Service (WINS), and host files.

CNH.14.3 – Evaluate the main protocols that make up the TCP/IP suite, including TCP, user datagram protocol (UDP), post office protocol (POP3), simple mail transfer protocol (SMTP), simple network management protocol (SNMP), file transfer protocol (FTP), hypertext transfer protocol (HTTP), and IP.

CNH.14.4 – Discuss the fundamental concepts of TCP/IP classes, addressing, and port numbers.

Outcome: **CNH.15** Students will compare utilities used to verify TCP/IP functionality on various Windows Operating Systems.

Components: **CNH.15.1** – Explain how and when to use the proper TCP/IP utilities to test, validate, and troubleshoot IP connectivity.

Outcome: **CNH.16** Students will demonstrate knowledge and skills to upgrade basic network software and hardware components.

Components: **CNH.16.1** – Demonstrate understanding of the need for administrative and test accounts, passwords, IP addresses, IP configurations, and relevant Outcome operating procedure (SOP) prior to network implementation.

CNH.16.2 – Analyze the impact of environmental factors on computer networks.

CNH.16.3 – Recognize visually and comprehend verbal and written descriptions of common peripheral ports, external SCSI (especially DB-25 connectors), and common network components.

CNH.16.4 – Analyze uses of RJ-45 connectors, comparing the contributions of cabling and patch cables to the overall length of the cabling segment.

Outcome: **CNH.17** Students will select and install proper client software and ensure network security.

Components: **CNH.17.1** – Research network management involving network documentation, network security, environmental factors, network performance, server administration, and network troubleshooting.

CNH.17.2 – Analyze networking systems, determine problems, and make corrections.

CNH.17.3 – Manage an advanced networking system.

Outcome: **CNH.18** Students will analyze fault tolerance and disaster recovery.

Components: **CNH.18.1** – Evaluate various types of RAID technology.

CNH.18.2 – Analyze volumes as related to the hard drive.

CNH.18.3 – Research the various types of Outcome backup procedures and backup media storage practices.

CNH.18.4 – Evaluate the need for periodic applications of software patches and other fixes to the network.

Outcome: **CNH.19** The student will select and examine basic troubleshooting techniques to identify and correct network problems.

Components: **CNH.19.1** – Analyze the proper steps to a systematic approach to identifying the extent of a network problem and, given a problem scenario, select the appropriate next step based on this approach.

CNH.19.2 – Demonstrate awareness of the need to check for physical and logical indicators of trouble.

CNH.19.3 – Research a network problem scenario, including symptoms and determine the most likely cause(s) of the problem based on the available information. Select the most appropriate course of action based on this inference.

CNH.19.4 – Specify the tools that are commonly used to resolve network equipment problems and describe the purpose and function of common network tools.

Multimedia I - Design & Development
Grades 11 – 12 (Year Long May be Repeated)
 (CIP Code: 11.0210)

Purpose: Multimedia is the process of planning, instructional design, and development. In this course students will create interactive computer applications to be delivered on CD-ROM, Internet or other delivery media using the elements of text, graphics, animation, sound, video, and digital imaging. These skills can prepare students for entry-level positions and other occupational/educational goals.

Outcome: **MMI.1** Students will develop an awareness of multimedia career opportunities and an overview of the relevant history of the computer industry.

Components: **MMI.1.1** – Develop career awareness related to working in the multimedia industry.

MMI.1.2 – Identify multimedia career fields.

MMI.1.3 – Investigate career opportunities, trends, and requirements related to multimedia careers.

MMI.1.4 – Identify factors for employability and advancement in multimedia careers.

MMI.1.5 – Discuss the relevant history of computer technology/multimedia.

Outcome: **MMI.2** Students will demonstrate the ability to perform basic computer functions on an Outcome platform (*P* and/or *Mac*).

Components: **MMI.2.1** – Perform basic operating system functions.

MMI.2.2 – Perform basic file commands.

MMI.2.3 – Demonstrate the ability to convert a file to a format that may be more appropriate for a project.

MMI.2.4 – Demonstrate the ability to manage files on a network.

MMI.2.5 – Know the information available in hardware and software documentation, and use the help menus when needed.

MMI.2.6 – Compare and contrast various types of file formats appropriate for the relevant computer platform.

MMI.2.7 – Describe the components of a basic multimedia computer system.

MMI.2.8 – Utilize shortcut keys and quick-stroke commands where applicable in software applications and OS to improve performance.

MMI.2.9 – Adhere to the individual school's acceptable use policy.

Outcome: **MMI.3** Students will apply principles and elements of visual design while creating multimedia projects.

Components: **MMI.3.1** – Demonstrate the ability to make decisions about the use of formal elements of design.

MMI.3.2 – Demonstrate the ability to make decisions about the use of typography principles to enhance communication.

Outcome: **MMI.4** Students will demonstrate proper planning and design by utilizing an instructional design model such as ADDIE (Analyze, Design, Develop, Implement, Evaluate) in the development of *multimedia projects*.

Components: **MMI.4.1** – (*Analyze*) Develop the skills to gather and process contextual information affecting the structure, purpose, content, and design of a project.

MMI.4.2 – (*Design*) Develop the skills to write Components, outline content, create a course map and storyboard layouts of user interface.

MMI.4.3 – (*Develop*) Apply digital media creation skills to populate course with relevant multimedia.

MMI.4.4 – (*Implement*) Apply implementation practices including publishing, testing, and refining the project.

MMI.4.5 – (*Evaluate*) Assess the effectiveness of the project and production experience.

MMI.4.6 – Recognize skills in project development to successfully produce a finished product for an outcome delivery medium (discussion item in the first year).

Outcome: **MMI.5** Students will participate in individual and team (group) activities.

Components: **MMI.5.1** – Demonstrate the ability to work individually in the completion of multimedia projects.

MMI.5.2 – Demonstrate the ability to work as a team member in the completion of multimedia projects.

Outcome: **MMI.6** Students will produce various forms of *media*.

Components: **MMI.6.1** – Create 2D graphics using a variety of formats and techniques.

MMI.6.2 – Create 2D animations.

MMI.6.3 – Create digital video.

MMI.6.4 – Create digital audio.

MMI.6.5 – Create a personal archive of student work/projects.

Outcome: **MMI.7** Students will use multimedia tools and authoring skills to develop a complete and functional interactive multimedia team project.

Components: **MMI.7.1** – Produce project plan documentation using Outcome 4 as a guide.

MMI.7.2 – Determine when to produce original materials (graphics, audio, video, animations, etc.) and when to use copyrighted and/or royalty-free materials.

MMI.7.3 – Understand and follow fair-use guidelines and copyright laws as they apply to education and industry (see appendix for complete guidelines).

MMI.7.4 – Know the limitations on time, portion, copying, and distribution. Portion limitations mean the amount of a copyrighted work that can reasonably be used in qualifying educational multimedia projects – See appendix and/or USOE website for detailed information.

- Motion Media
- Text Material
- Music, Lyrics, and Music Video
- Illustrations and Photographs

MMI.7.5 – Import and incorporate various forms of media needed for a project.

MMI.7.6 – Utilize and incorporate interaction and navigational tools.

MMI.7.7 – Create interfaces appropriate for the designed project.

MMI.7.8 – Utilize “*timer events*”.

MMI.7.9 – Utilize “*user driven events*”.