



Spokane Public Schools Computer Applications and Coding

Course: Computer Applications and Coding		Total Framework Hours up to: 180
CIP Code: 110601	<input checked="" type="checkbox"/> Exploratory <input type="checkbox"/> Preparatory	Date Last Modified:
Career Cluster: Information Technology		Cluster Pathway: Information Support and Services / STEM

COMPONENTS AND ASSESSMENTS

Performance Assessments: Demonstrate proper file management techniques and computer fundamentals.

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum: The student will analyze, refine, and apply decision-making skills through classroom, family, community, and business and industry (work-related) experiences. A corresponding activity – such as Emerging Business Issues – to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careertech/CTEclassapproval.asp

Standards and Competencies

Standard/Unit: File Management and Computer Fundamentals

Competencies	Total Learning Hours for Unit: 10
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- Read, write, define, understand, and use computer terminology
- Read, interpret, and follow documentation concerning the care and operation of software and hardware
- Identify and demonstrate the use of computer peripherals including printers, input devices, and storage devices, utilizing written and electronic references
- Demonstrate appropriate file management techniques
- Demonstrate the purpose and care of computer components, including peripherals
- Use help menus and reference manuals as needed for technical help and formatting of documents

Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation.
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Apply a previously used problem-solving strategy in a new context. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Apply a previously used problem- solving strategy in a new context.

Reading	<ul style="list-style-type: none"> Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions. Apply understanding of complex information, including functional documents, to perform a task.
Science	<ul style="list-style-type: none"> Any system may be thought of as containing subsystems and as being a subsystem of a larger system.
Social Studies	
Writing	<ul style="list-style-type: none"> Spells accurately in final draft.

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to touch type with 10% to 15% increase in speed with 95% accuracy

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum, the student will identify and analyze the characteristics of family, community, business, and industry leaders. A corresponding activity – such as Emerging Business Issues – to help students achieve this skill should be identified on the local level from the Core leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careerteched/CTEclassapproval.asp)

Standards and Competencies

Standard/Unit: Standard: 2.1 Keyboarding

Competencies

Total Learning Hours for Unit: 20

- NSBE IT6.1: Develop proper input techniques (e.g., keyboarding, scanning, speech recognition, handwriting recognition, and the use of a touch screen or mouse), including safety methods to avoid repetitive strain injury.
- NSBE IT6.2-4: Develop input technology skills for acceptable speed and accuracy levels that adhere to principles of repetitive strain avoidance.
- Apply proper keyboarding techniques to input data and produce personal and business documents.
- Develop keyboarding skills to input and manipulate text and numerical data to produce usable documents and web pages.
- NSBE I15.1-2: Apply ergonomic techniques to information technology tasks.

Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> Applies a variety of listening strategies to accommodate the listening situation
Educational Technology	<ul style="list-style-type: none">
Health and Fitness	<ul style="list-style-type: none"> Understand how environmental factors affect one's health
Math	<ul style="list-style-type: none"> Apply a previously used problem-solving strategy in a new context. Analyze a problem situation to determine the question(s) to be answered. Identify relevant, missing, and extraneous information related to the solution to a problem. Apply a previously used problem-solving strategy in a new context.
Reading	<ul style="list-style-type: none">
Science	<ul style="list-style-type: none"> Scientific reports should enable another investigator to repeat the study to check the results.
Social Studies	<ul style="list-style-type: none">
Writing	<ul style="list-style-type: none"> Spells accurately in final draft Applies capitalization rules

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to research/retrieve information on the Internet using effective and efficient techniques. Students will understand rules and laws pertaining to plagiarism and ethics while adhering to district Acceptable Use Policies.

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum: 2.4 The student will demonstrate skills that assist in understanding and accepting responsibility to family, community, and business and industry. A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careerteched/CTEclassapproval.asp

Standards and Competencies

Standard/Unit: Internet Basics

Competencies

Total Learning Hours for Unit: 15

- Practice a code of ethics for information systems
- NSBE IT15.1-2: Adhere to safety and security policies (e.g., acceptable use policy, Web page policies, and student photo policies)
- Identify laws and rules pertaining to computer crime, fraud, and abuse.
- Recognize copyright laws and communication protocol
- Analyze validity of sites as a result of conducting searches
- Determine the purpose or application of information posted on a site
- Perform basic browser functions (e.g., favorites, history, navigation buttons, menus, preferences)
- Understand and apply the rules of Netiquette
- Copy, paste and save from the Internet
- NSBE IT7.3: Analyze the effectiveness of online information resources to support collaborative tasks, research, publications, communications, & increased productivity

Aligned Washington State Standards

Art	<ul style="list-style-type: none"> •
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation. • Analyzes and evaluate bias and the use of persuasive techniques in mass media.
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Apply a previously used problem-solving strategy in a new context. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Apply a previously used problem- solving strategy in a new context.
Reading	<ul style="list-style-type: none"> • Apply comprehension monitoring strategies during and after reading; determine importance using theme, main ideas, and supporting details in grade-level informational/expository text and/or literary/narrative text. • Apply understanding of text organizational structures. • Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions. • Apply understanding of complex information, including functional documents, to perform a task. • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings • Apply understanding of complex organizational features of printed text and electronic sources.
Science	<ul style="list-style-type: none"> • Any system may be thought of as containing subsystems and as being a subsystem of a larger system. • The output of one system can become the input of another system.

	<ul style="list-style-type: none"> • Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world. • Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry. • People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. • Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods. • Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising. • People in all cultures have made and continue to make contributions to society through science and technology. • The technological design process begins by defining a problem in terms of criteria and constraints, conducting research, and generating several different solutions. • The ability to solve problems is greatly enhanced by use of mathematics and information technologies. • Conclusions must be logical, based on evidence, and consistent with prior established knowledge.
Social Studies	
Writing	<ul style="list-style-type: none"> • Analyzes and selects effective strategies for generating ideas and planning writing. • Analyzes task and composes multiple drafts when appropriate. • Revises text, including changes in words, sentences, paragraph, and ideas. • Produces documents used in a career setting.

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to create business documents such as memos, letters, reports, tables, and announcements, while exhibiting writing, editing, and proofreading skills. Students will be able to recognize and apply APA and/or MLA formats.

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum: Leadership activities will assist each other in working on word processing, concluding their work with a paper on equal employment opportunities.

Standards and Competencies

Standard/Unit: Word Processing

Competencies

Total Learning Hours for Unit: 25

- NSBE COM1.C.3 – Prepare formal and informal reports using suitable format and supplementing with appropriate graphics
- Use the Undo, Redo, and Repeat commands
- Apply font formats (bold, italic, and underline)
- Use the Spelling and Grammar command
- Insert page breaks
- Insert and move text
- Cut, copy, paste
- Select and change font and font size
- Apply character effects (superscript, subscript, strikethrough, small caps and outline)
- Insert date and time
- Align text in paragraphs (center, left, right, and justified)
- Add bullets and numbering

- Set character, line and paragraph spacing options
- Use indentation options (left, right, first line, and hanging indent)
- Use Tabs command (center, decimal, left, and right)
- Print a document
- Use print preview
- Navigate through a document
- Insert page numbers
- Set page orientation
- Set margins
- Create and modify headers and footers
- Align text vertically
- Use Click and Type
- Use save
- Locate and open an existing document
- Use Save As (different name, location or format)
- Create and format tables
- Revise tables (insert and delete rows and columns and change cell formats)
- Modify table structure (merge cells, change height, and width)
- Use a drawing toolbar
- Insert graphics into a document (Clipart and images)
- NSBE COM1.C.1: Apply grammar and usage rules to preparation of documents
- NSBE COM 1.C.3: Compose and produce a variety of business messages and reports using correct style, format and content`
- NSBE Com 1.C.3: Apply a variety of specific proofreading techniques to identify and correct errors.

Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Apply a previously used problem-solving strategy in a new context. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Apply a previously used problem- solving strategy in a new context.
Reading	<ul style="list-style-type: none"> • W Apply comprehension monitoring strategies during and after reading; determine importance using theme, main ideas, and supporting details in grade-level informational/expository text and/or literary/narrative text. • Understand and apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings. • Apply understanding of text organizational structures • Apply understanding of complex information, including functional documents, to perform a task • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings • Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions.
Science	
Social Studies	

Writing	<ul style="list-style-type: none"> • Analyzes and selects effective strategies for generating ideas and planning writing • Analyzes task and composes multiple drafts when appropriate • Revises text, including changing words, sentences, paragraph, and ideas • Edits for conventions • Publishes in formats that are appropriate for specific audiences and purposes • Applies understanding of the recursive nature of writing process • Uses knowledge of time constraints to adjust writing process • Applies understanding of multiple and varied audiences to write effectively • Produces documents used in a career setting • Analyzes and selects effective organizational structures • Spells accurately in final draft • Applied capitalization rules • Applies punctuation rules • Uses complete sentences in writing • Applies paragraph conventions • Applies conventional form for citation
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COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to identify and discuss the various emerging technologies.

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum: The student demonstrates oral, interpersonal, written and electronic communication and presentation skills and understands how to apply those skills. A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careerteched/CTEclassapproval.asp

Standards and Competencies

Standard/Unit: Emerging Technologies

Competencies

Total Learning Hours for Unit: 20

- Demonstrate software skills using a variety of technologies
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Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation • Use effective language and style
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Solve one-variable linear equations. • Solve one- and two-step linear inequalities and graph the solutions on the number line. • Represent a linear function with a verbal description, table, graph, or symbolic expression, and make connections among these

	<p>representations.</p> <ul style="list-style-type: none"> • Determine the slope and y-intercept of a linear function described by a symbolic expression, table, or graph. • Interpret the slope and y-intercept of the graph of a linear function representing a contextual situation. • Solve single- and multi-step word problems involving linear functions and verify the solutions. • Identify pairs of angles as complementary, supplementary, adjacent, or vertical, and use these relationships to determine missing angle measures. • Determine missing angle measures using the relationships among the angles formed by parallel lines and transversals. • Represent and explain the effect of one or more translations, rotations, reflections, or dilations (centered at the origin) of a geometric figure on the coordinate plane. • Summarize and compare data sets in terms of variability and measures of center. • Select, construct, and analyze data displays, including box-and-whisker plots, to compare two sets of data. • Determine whether conclusions of statistical studies reported in the media are reasonable. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Analyze and compare mathematical strategies for solving problems, and select and use one or more strategies to solve a problem. • Represent a problem situation, describe the process used to solve the problem, and verify the reasonableness of the solution. • Communicate the answer(s) to the question(s) in a problem using appropriate representations, including symbols and informal and formal mathematical language. • Apply a previously used problem-solving strategy in a new context. • Extract and organize mathematical information from symbols, diagrams, and graphs to make inferences, draw conclusions, and justify reasoning.
Reading	<ul style="list-style-type: none"> • Apply understanding of complex information, including functional documents, to perform a task
Science	<ul style="list-style-type: none"> • Any system may be thought of as containing subsystems and as being a subsystem of a larger system. • The boundaries of a system can be drawn differently depending on the features of the system being investigated, the size of the system, and the purpose of the investigation. • The output of one system can become the input of another system. • 6-8 INQA Question Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world. • 6-8 INQB Investigate Different kinds of questions suggest different kinds of scientific investigations. • 6-8 INQC Investigate Collecting, analyzing, and displaying data are essential aspects of all investigations. • 6-8 INQE Model Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations. • 6-8 INQG Communicate Clearly Scientific reports should enable another investigator to repeat the study to check the results. • 6-8 INQH Intellectual Honestly Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry. • 6-8 INQI Consider Ethics Scientists and engineers have ethical codes governing animal experiments, research in natural ecosystems, and studies that involve human subjects. • People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. • Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods. • The process of technological design begins by defining a problem and identifying criteria for a successful solution, followed by research to better understand the problem and brainstorming to arrive at potential solutions. • Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.

	<ul style="list-style-type: none"> • Solutions must be tested to determine whether or not they will solve the problem. Results are used to modify the design, and the best solution must be communicated persuasively. • 6-8 APPH People in all cultures have made and continue to make contributions to society through science and technology. • 9-12 INQC Explain Conclusions must be logical, based on evidence, and consistent with prior established knowledge. • 9-12 APPB The technological design process begins by defining a problem in terms of criteria and constraints, conducting research, and generating several different solutions. • 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies. • 9-12 APPE Perfect solutions do not exist. All technological solutions involve trade-offs in which decisions to include more of one quality means less of another. All solutions involve consequences, some intended, others not. • 9-12 APPF It is important for all citizens to apply science and technology to critical issues that influence society.
Social Studies	
Writing	

COMPONENTS AND ASSESSMENTS	
Performance Assessments: Students will be able to demonstrate proficiency by generating on-screen presentations.	
Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum: 2.3 The student will analyze the complex responsibilities of the leader and follower and demonstrate the ability to both lead and follow A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careertech/CTEclassapproval.asp	
Standards and Competencies	
Standard/Unit: Presentation Software	
Competencies	Total Learning Hours for Unit: 15
<ul style="list-style-type: none"> • Delete slides • Create a specified type of slide • Create a presentation from a template or a wizard • Navigate among different views (slide, outline, sorter, and tri-pane) • Insert headers and footers • Change the order of slides • Check spelling • Change the text alignment • Create a text box for entering text • Add a picture • Add and group shapes • Apply formatting • Scale and size an object • Add slide transitions and build effects • Print slides in a variety of formats • Save changes to a presentation • Save as a new presentation 	

- NSBE COM1.A.3: Use proper techniques to make a formal oral presentation
- NSBE COM1.A.3: Use technology to enhance oral presentations
- NSBE COM1.A.3: Answer questions in formal and informal situations
- NSBE COM1.C.1: Apply grammar and usage rules to preparation of documents

Aligned Washington State Standards

Art	<ul style="list-style-type: none"> • Use skills of craftsmanship to produce quality work.
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation. • Uses communication skills that demonstrate respect. • Applies skills to plan and organize effective oral communication and presentation. • Applies skills and strategies for the delivery of effective oral communication and presentation. • Applies own or established criteria to analyze strengths and weaknesses of one's own communication. • Analyzes and evaluates strengths and weaknesses of others' formal and informal communication using own or established criteria. • Applies strategies for setting grade level appropriate goals and evaluates improvement in communication.
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Apply a previously used problem-solving strategy in a new context. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Apply a previously used problem-solving strategy in a new context.
Reading	<ul style="list-style-type: none"> • Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions. • Apply understanding of complex information, including functional documents, to perform a task. • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings. • Apply understanding of complex organizational features of printed text and electronic sources.
Science	
Social Studies	
Writing	<ul style="list-style-type: none"> • Analyzes and selects effective strategies for generating ideas and planning writing • Edits for conventions • Publishes in formats that are appropriate for specific audiences and purposes • Applies understanding of the recursive nature of writing process • Uses knowledge of time constraints to adjust writing process • Spells accurately in final draft • Applies capitalization rules

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to organize information on a spreadsheet and incorporate charts and graphs

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum:

- 1.3 The student demonstrates oral, interpersonal, written and electronic communication and presentation skills and understands how to apply those skills
- 2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals

Leadership Activities: Student will assist each other in understanding spreadsheet software

A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resource table. This document can be found at www.k12.wa.us/careerteched/CTEclassapproval.asp)

Standards and Competencies

Standard/Unit: Spreadsheets

Competencies

Total Learning Hours for Unit: 15

- Use Undo and Redo
- Clear cell content
- Enter text, dates, and numbers
- Edit cell content
- Navigate to a specific cell
- Insert and delete selected cells
- Cut, copy, paste, and move selected cells
- Clear cell formats
- Work with series
- Use Save
- Use Save As (different name, location, and format)
- Locate and open an existing file
- Apply font styles (typeface, size, color, and styles)
- Apply number formats (currency, percent, dates and commas)
- Modify row and column size
- Modify alignment of cell content
- Adjust decimal places
- Apply cell borders and shading
- Merge cells
- Preview and print spreadsheets and files
- Print a selection
- Change page orientation and scaling
- Set page margins and centering
- Set up headers and footers
- Set print titles and options (gridlines, print quality, and headings for rows and columns)
- Insert and delete rows and columns
- Change the zoom setting
- Move between spreadsheets in a file
- Check spelling
- Rename a spreadsheet
- Insert and delete spreadsheets
- Enter formulas in a cell
- Revise formulas
- Use basic automatic functions
- Preview and print charts
- Create a chart
- Modify charts

Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation
Educational Technology	
Health and Fitness	
Math	<ul style="list-style-type: none"> • Solve one-variable linear equations. • Solve one- and two-step linear inequalities and graph the solutions on the number line. • Represent a linear function with a verbal description, table, graph, or symbolic expression, and make connections among these representations. • Determine the slope and y-intercept of a linear function described by a symbolic expression, table, or graph. • Interpret the slope and y-intercept of the graph of a linear function representing a contextual situation. • Solve single- and multi-step word problems involving linear functions and verify the solutions. • Identify pairs of angles as complementary, supplementary, adjacent, or vertical, and use these relationships to determine missing angle measures. • Determine missing angle measures using the relationships among the angles formed by parallel lines and transversals. • Represent and explain the effect of one or more translations, rotations, reflections, or dilations (centered at the origin) of a geometric figure on the coordinate plane. • Summarize and compare data sets in terms of variability and measures of center. • Select, construct, and analyze data displays, including box-and-whisker plots, to compare two sets of data. • Determine whether conclusions of statistical studies reported in the media are reasonable. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Analyze and compare mathematical strategies for solving problems, and select and use one or more strategies to solve a problem. • Represent a problem situation, describe the process used to solve the problem, and verify the reasonableness of the solution. • Communicate the answer(s) to the question(s) in a problem using appropriate representations, including symbols and informal and formal mathematical language. • Apply a previously used problem-solving strategy in a new context. • Extract and organize mathematical information from symbols, diagrams, and graphs to make inferences, draw conclusions, and justify reasoning.
Reading	<ul style="list-style-type: none"> • Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings
Science	<ul style="list-style-type: none"> • Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world. • Collecting, analyzing, and displaying data are essential aspects of all investigations. • Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations. • 6-8 INQG Communicate Clearly Scientific reports should enable another investigator to repeat the study to check the results. • People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. • Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising. • Solutions must be tested to determine whether or not they will solve the problem. Results are used to modify the design, and the best solution must be communicated persuasively. • 9-12 INQC Explain Conclusions must be logical, based on evidence, and consistent with prior established knowledge.

	<ul style="list-style-type: none"> • The ability to solve problems is greatly enhanced by use of mathematics and information technologies. • It is important for all citizens to apply science and technology to critical issues that influence society.
Social Studies	
Writing	<ul style="list-style-type: none"> • Spells accurately in final draft

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to enter, create, edit and sort databases

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum:
 1.3 The student demonstrates oral, interpersonal, written, and electronic communication and presentation skills and understands how to apply those skills.
 2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals
 Leadership Activities: Students will assist each other while working with database software.
 A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resources table. This document can be found at www.k12.wa.us/careertech/CTEclassapproval.asp

Standards and Competencies

Standard/Unit: Database Management Systems

Competencies

Total Learning Hours for Unit: 15

- NSBE IT8.3: Populate (enter data into) and edit fields and records
- NSBE IT8.3: Describe search strategies and use them to solve common information problems
- NSBE IT8.3: Sort and retrieve data from databases
- NSBE IT 8.3: Identify the variety of data types that are stored in database management systems
- Determine appropriate data inputs for your database
- Determine appropriate data outputs for your database
- Create table structures
- Print database structures
- Navigate through records
- Create a database
- Modify field properties
- Use multiple data types
- Modify database structure
- Enter records
- Delete records
- Find a record
- Sort records

Aligned Washington State Standards

Art	
Communications	<ul style="list-style-type: none"> • Applies a variety of listening strategies to accommodate the listening situation
Educational Technology	
Health and Fitness	

Math	<ul style="list-style-type: none"> • Solve single- and multi-step word problems involving linear functions and verify the solutions. • Summarize and compare data sets in terms of variability and measures of center. • Select, construct, and analyze data displays, including box-and-whisker plots, to compare two sets of data. • Determine whether conclusions of statistical studies reported in the media are reasonable. • Analyze a problem situation to determine the question(s) to be answered. • Identify relevant, missing, and extraneous information related to the solution to a problem. • Analyze and compare mathematical strategies for solving problems, and select and use one or more strategies to solve a problem. • Represent a problem situation, describe the process used to solve the problem, and verify the reasonableness of the solution. • Extract and organize mathematical information from symbols, diagrams, and graphs to make inferences, draw conclusions, and justify reasoning.
Reading	<ul style="list-style-type: none"> • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings
Science	<ul style="list-style-type: none"> • Collecting, analyzing, and displaying data are essential aspects of all investigations. • Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations. • 6-8 INQG Communicate Clearly Scientific reports should enable another investigator to repeat the study to check the results. • People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. • Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising. • The ability to solve problems is greatly enhanced by use of mathematics and information technologies. • It is important for all citizens to apply science and technology to critical issues that influence society.
Social Studies	
Writing	

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to use web design software to create and present a web page that meets functional and technical specifications

Leadership Alignment: Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum:

1.3 The student demonstrates oral, interpersonal, written and electronic communication and presentation skills and understands how to apply those skills

2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals.

Leadership Activities – Students will work in Web design and with a variety of peripherals and help each other with their uses.

A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resources table. This document can be found at www.k12.wa.us/careertech/CTEclassapproval.asp

Standards and Competencies

Standard/Unit: Web Design

Competencies

Total Learning Hours for Unit: 15

- Apply elements of basic we design such as color, formatting layout hyperlinks, browser connection (code and viewing), HTML

Aligned Washington State Standards

Art

Use the senses to gather and process information
Incorporate arts knowledge and skills into the workplace

Communications

Applies a variety of listening strategies to accommodate the listening situation

Educational Technology	
Health and Fitness	
Math	
Reading	<ul style="list-style-type: none"> Analyze web-based and other resource materials (including primary sources and secondary sources) for relevance in answering research questions Apply understanding of complex information, including functional documents, to perform a task Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings
Science	<ul style="list-style-type: none"> 6-8 INQG Communicate Clearly Scientific reports should enable another investigator to repeat the study to check the results. 6-8 INQH Intellectual Honestly Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry. 6-8 APPA People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. 6-8 APPC Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods. 6-8 APPE Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising. 6-8 APPH People in all cultures have made and continue to make contributions to society through science and technology. 9-12 APPB The technological design process begins by defining a problem in terms of criteria and constraints, conducting research, and generating several different solutions. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies. 9-12 INQC Explain Conclusions must be logical, based on evidence, and consistent with prior established knowledge.
Social Studies	
Writing	<ul style="list-style-type: none"> Analyzes and selects effective strategies for generating ideas and planning writing Edits for conventions Publishes in formats that are appropriate for specific audiences and purposes Spells accurately in final draft Publish

COMPONENTS AND ASSESSMENTS

Performance Assessments: Students will be able to use web design software to create and present a web page that meets functional and technical specifications

Leadership Alignment Provide leadership activities that correlate with the Digital Communication Tools curriculum. At a minimum:

1.3 The student demonstrates oral, interpersonal, written and electronic communication and presentation skills and understands how to apply those skills

2.2 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals.

Leadership Activities – Students will work in Web design and with a variety of peripherals and help each other with their uses.

A corresponding activity to help students achieve this skill should be identified on the local level from the Core Leadership Skills document which includes a resources table. This document can be found at www.k12.wa.us/careertech/CTEclassapproval.asp

Standards and Competencies	
Standard/Unit: Scanner and Digital Camera Fundamentals	
Competencies	Total Learning Hours for Unit: 10
<ul style="list-style-type: none"> • Read, interpret, and follow documentation concerning how to take pictures with a digital camera and scan images with a scanner. • Identify and define the uses of the three main types of file formats used for images (JPG, BMP, GIF) 	
Aligned Washington State Standards	
Art	<ul style="list-style-type: none"> • Use the senses to gather and process information • Incorporate arts knowledge and skills into the workplace
Communications	
Educational Technology	
Health and Fitness	
Math	
Reading	<ul style="list-style-type: none"> • Apply understanding of complex information, including functional documents, to perform a task • Apply appropriate reading strategies for interpreting technical and non-technical documents used in job-related settings
Science	<ul style="list-style-type: none"> • Any system may be thought of as containing subsystems and as being a subsystem of a larger system. • The output of one system can become the input of another system. • 6-8 INQG Communicate Clearly Scientific reports should enable another investigator to repeat the study to check the results. • People have always used technology to solve problems. Advances in human civilization are linked to advances in technology. • Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods. • People in all cultures have made and continue to make contributions to society through science and technology. • The technological design process begins by defining a problem in terms of criteria and constraints, conducting research, and generating several different solutions.
Social Studies	
Writing	<ul style="list-style-type: none"> • Analyzes and selects effective strategies for generating ideas and planning writing • Publishes in formats that are appropriate for specific audiences and purposes

COMPONENTS AND ASSESSMENTS	
Performance Assessments: Students will demonstrate understanding of a variety of software and hardware tools through the creation of an integrated project which incorporates a possible career choice. Students will show how diversity plays a role in the career choice they have chosen by researching possible non-traditional opportunities.	
Leadership Alignment: Leadership activity embedded in curriculum and instruction. (Examples: CTSO project or activity, locally developed leadership project or activity, embedded 21 st Century interdisciplinary theme activity such as global awareness, financial, economic, business & entrepreneurial literacy, civic literacy, health & safety, environmental literacy)	
Standards and Competencies	
Standard/Unit: Integrated Project	
Competencies	Total Learning Hours for Unit: 20

- In teams, students will create a manufacturing business startup simulation. Teams will do internet research; write business documents; model the proposed product using various software; make and give an oral presentation using appropriate software; figure startup capital needs in a spreadsheet, including graphic representations of the data; manage business contacts in a database, including printing reports; create a business website, containing original digital pictures

Aligned Washington State Standards

Art	
Communications	
Educational Technology	
Health and Fitness	
Math	
Reading	
Science	
Social Studies	
Writing	

21st Century Skills

Check those that students will demonstrate in this course:

<p>LEARNING & INNOVATION</p> <p>Creativity and Innovation <input checked="" type="checkbox"/> Think Creatively <input checked="" type="checkbox"/> Work Creatively with Others <input type="checkbox"/> Implement Innovations</p> <p>Critical Thinking and Problem Solving <input checked="" type="checkbox"/> Reason Effectively <input checked="" type="checkbox"/> Use Systems Thinking <input type="checkbox"/> Make Judgments and Decisions <input checked="" type="checkbox"/> Solve Problems</p> <p>Communication and Collaboration <input checked="" type="checkbox"/> Communicate Clearly <input checked="" type="checkbox"/> Collaborate with Others</p>	<p>INFORMATION, MEDIA & TECHNOLOGY SKILLS</p> <p>Information Literacy <input checked="" type="checkbox"/> Access and /evaluate Information <input checked="" type="checkbox"/> Use and Manage Information</p> <p>Media Literacy <input type="checkbox"/> Analyze Media <input type="checkbox"/> Create Media Products</p> <p>Information, Communications and Technology (ICT Literacy) <input type="checkbox"/> Apply Technology Effectively</p>	<p>LIFE & CAREER SKILLS</p> <p>Flexibility and Adaptability <input checked="" type="checkbox"/> Adapt to Change <input checked="" type="checkbox"/> Be Flexible</p> <p>Initiative and Self-Direction <input checked="" type="checkbox"/> Manage Goals and Time <input checked="" type="checkbox"/> Work Independently <input type="checkbox"/> Be Self-Directed Learners</p> <p>Social and Cross-Cultural <input checked="" type="checkbox"/> Interact Effectively with Others <input checked="" type="checkbox"/> Work Effectively in Diverse Teams</p> <p>Productivity and Accountability <input type="checkbox"/> Manage Projects <input checked="" type="checkbox"/> Produce Results</p> <p>Leadership and Responsibility <input type="checkbox"/> Guide and Lead Others <input checked="" type="checkbox"/> Be Responsible to Others</p>
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