

# Kentucky Career and Technical Education Curriculum Alignment Resource



## COMPUTER AND TECHNOLOGY APPLICATIONS

# Computer & Technology Applications

## Course Description:

Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.

**Grade Level:** 9-10

**Credits:** 1

## Technical Content / Process

### Students will:

1. use a word processing program to create, save, print, modify, spell-check, and grammar-check a simple document
2. use a word processing program to enhance the appearance of a simple document by using centered, right justification, boldface, underlined, and italicized text.
3. use a word processing program to change the default margins and line spacing.
4. use a word processing program to create a document with headers, footer, and footnotes.
5. use a presentation program with text body, graphics, and animation.
6. use an electronic spreadsheet to create, save, print, modify, and obtain graphs from a simple spreadsheet.
7. use an electronic spreadsheet to perform basic mathematical operations including, but not limited to, addition, subtraction, multiplication, and division.
8. use an electronic spreadsheet to calculate averages and percents.
9. use an electronic spreadsheet program to enhance the appearance of a spreadsheet by changing fonts, foreground, and background colors; and centering text across columns.
10. use a database management program to create, maintain, and print reports from a simple relational database.
11. use a database management program to customize the user interface by creating and maintaining forms and reports.
12. use a database management program to query tables using basic query operations such as "and", "or", "not", etc.
13. print in landscape and portrait orientations.
14. use the component of the operating system that helps the user manipulate files and folders to copy, move, rename, and delete files; and to create, copy, move, rename, and delete folders.
15. use a World Wide Web browser to navigate hypertext documents and to download files.
16. use Internet search engines and understand their advantages and disadvantages.
17. use an electronic mail program to send and receive electronic mail.
18. identify components of a computer
19. discriminate between ethical and unethical uses of computers and information.
20. demonstrate a basic understanding of issues regarding software copyright, software licensing, and software copying.
21. demonstrate an awareness of computer viruses and basic understanding of ways to protect a computer from viruses.
22. demonstrate a basic understanding of the impact of computers on society.
23. use and understand basic computer terminology.
24. utilize activities of FBL A as an integral component of course content & leadership development.

## Connections

- National Standards for Business Education
- Partnership for 21<sup>st</sup> Century Skills
- Kentucky Core Academic Standards – Former PL/VS Program of Studies
- Common Core Standards for Mathematics and English/Language Arts
- Kentucky Occupational Skills Standards Assessment (KOSSA) Standards

Description Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.

Unit Title **Introduction to Computers**

### **Technical Content**

18. Identify the components of a computer.
14. Use the component of the operating system that helps the user manipulate files and folders to copy, move, rename, and delete files; and to create, copy, move, rename, and delete folders.
19. Discriminate between ethical and unethical uses of computers and information.
20. Demonstrate a basic understanding of issues regarding software copyright, software licensing, and software copying.
21. Demonstrate an awareness of computer viruses and basic understanding of ways to protect a computer from viruses.
22. Demonstrate a basic understanding of the impact of computers on society.
23. Use and understand basic computer terminology.
24. Utilize activities of FBLA as an integral component of course content and leadership development.

### **National Standards**

ISTE.S3B ~ locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.

ISTE.S5A ~ advocate and practice safe, legal, and responsible use of information and technology.

ISTE.S6A ~ understand and use technology systems.

NBEA.IT II Level 1 ~ describe current and emerging hardware and install, and upgrade hardware.

NBEA.IT XV Level 1 ~ describe, analyze, develop, and follow policies for managing ethical and legal issues in organizations and in a technology-based society.

NBEA.IT III Level 1 ~ identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems and utilities.

NBEA.IT V Level 1 ~ identify, evaluate, select, install, use, upgrade, and customize productivity software.

### **KY Core Academic Standards (Big Idea)**

#### **Communication/Technology - Vocational Studies**

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

#### **Employability Skills - Vocational Studies**

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

#### **Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology.

Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

### **English/Language Arts Common Core Standards**

CC.9-10.W.2.d Text Types and Purposes: Use precise language and domain-specific vocabulary to manage the complexity of the topic.

### **21st Century Skills and Knowledge**

ICT (Information, Communications, and Technology) Literacy

### **KOSSA Standards**

2001.AA.1 Utilize effective verbal and non-verbal communication skills

2001.AA.4 Communicate effectively with customers and co-workers

2001.AB.1 Locate and interpret written information

2001.AB.2 Read and interpret workplace documents

2001.AB.3 Identify relevant details, facts, and specifications

2001.AB.4 Record information accurately and completely

- 2001.AB.4 Record information accurately and completely
- 2001.AB.6 Demonstrate the ability to write clearly and concisely using industry specific terminology
- 2001.AG.1 Use technology appropriately to enhance professional presentations
- 2001.ED.1 Plan and follow a work schedule
- 2001.EM.3 Select appropriate technological resources to accomplish work
- 2001.OC.1 Gather and compile data for supervisor
- 2001.OE.3 Prepare and print documents in appropriate software
- 2001.OE.10 Locate and retrieve data from various sources (e.g., local drive, network drives, Internet)
- 2001.OE.13 Create and organize electronic files using folders and subfolders
- 2001.OE.20 Print spreadsheets and/or formulas using appropriate page setup (e.g., orientation, scaling, margins, headers/footers, print area, gridlines)

## **Learning Targets**

## **Sample Learner Activities - Click in the box to go to Activities**

Identify hardware devices appropriate for specific tasks.	<ol style="list-style-type: none"> <li>1. Label the parts of the computer.</li> <li>2. Identify the tasks that each device performs.</li> </ol>
Identify components of hardware.	<ol style="list-style-type: none"> <li>1. Label hardware devices.</li> </ol>
Connect needed peripheral devices.	<ol style="list-style-type: none"> <li>1. Unhook all computer components and have students hook them up again.</li> </ol>
Evaluate the capabilities and limitations of hardware for user needs.	<ol style="list-style-type: none"> <li>1. In teams of two, the learners will research and present their findings on the capabilities and limitations of a specific hardware component ~ flash drive, printers, modem, router, scanner, speakers, etc.</li> </ol>
Explain the purpose, operation, and care of hardware components.	<ol style="list-style-type: none"> <li>1. The learner will create a brochure explaining the appropriate ways to care for hardware components.</li> </ol>
Identify examples of emerging hardware technologies.	<ol style="list-style-type: none"> <li>1. Research an emerging technology and create an Advertising Campaign following the DECA competitive events guidelines. <a href="http://www.visualizing.org">www.visualizing.org</a></li> </ol>
Discuss basic issues related to responsible use of technology and describe personal or legal consequences of inappropriate use.	<ol style="list-style-type: none"> <li>1. Research responsible uses of technology through <a href="http://www.isnare.com">www.isnare.com</a>.</li> </ol>
Explain the consequences of illegal and unethical use of information technologies (piracy, illegal downloading, licensing infringement, inappropriate use of software, hardware, and mobile devices).	<ol style="list-style-type: none"> <li>1. Share a current event that relates to an illegal or unethical use of technology.</li> <li>2. Ethics, copyright, viruses activity.</li> <li>3. Scenario group activity.</li> </ol>
Discuss copyright rules and regulations (images, music, video, software).	
Explain plagiarism and its consequences.	
Navigate a basic operating system.	
Manage files and folders.	<ol style="list-style-type: none"> <li>1. Create a course folder within the student server space with subfolders for each unit of study.</li> </ol>
Use and understand basic computer terminology.	<ol style="list-style-type: none"> <li>1. Complete a word find with computer terms. <a href="http://www.armoredpenquin.com">www.armoredpenquin.com</a></li> <li>2. Terminology review and quiz.</li> </ol>

## **Technical Literacy Standards**

Writing Standards 9-12

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Language Standards 11-12

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Language Standards 11-12

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Writing Standards 11-12

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Description Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.

Unit Title Internet and E-mail

### **Technical Content**

15. use a World Wide Web browser to navigate hypertext documents and to download files.
16. use Internet search engines and understand their advantages and disadvantages.
17. use an electronic mail program to send and receive electronic mail.
24. utilize activities of FBLA as an integral component of course content and leadership development.

### **National Standards**

ISTE.S2a ~ interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.  
NBEA.IT1 ~ assess the impact of information technology in a global society.

### **KY Core Academic Standards (Big Idea)**

#### **Communication/Technology - Vocational Studies**

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

#### **Employability Skills - Vocational Studies**

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

#### **Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

### **English/Language Arts Common Core Standards**

CC.9-10.W.4 Production and Distribution of Writing: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

### **21st Century Skills and Knowledge**

ICT (Information, Communications, and Technology) Literacy

Communication

Critical Thinking and Problem Solving

### **KOSSA Standards**

2001.AA.3 Communicate and follow directions/procedures

2001.AA.4 Communicate effectively with customers and co-workers

2001.AB.1 Locate and interpret written information

2001.AB.5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation

2001.AB.5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation

2001.AC.3 Implement effective decision-making skills

- 2001.AF.1 Recognize the potential risks associated with Internet use
- 2001.AF.2 Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)
- 2001.AF.3 Practice safe, legal, and responsible use of technology in the workplace
- 2001.AH.2 Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, personal digital assistants, online meetings, conference calls)
- 2001.EK.4 Prepare a resume, letter of application, and job application
- 2001.OB.1 Prepare correspondence (e.g., memo, business letter, electronic mail)
- 2001.OB.5 Communicate with liaisons outside the company (e.g., business partners, business professional organizations)
- 2001.OC.16 Process, file, and archive electronic mail
- 2001.OE.11 Develop, revise, and create queries and reports using database software

## **Learning Targets**

## **Sample Learner Activities - Click in the box to go to Activities**

Use an electronic mail program to send and receive electronic mail.

1. The learner will send the teacher an e-mail with an attachment.
2. Set up a distribution list activity (see resources).
3. Basic e-mail terminology activity (see resources).

Discriminate between ethical and unethical uses of computers and information including e-mail and internet etiquette.

1. [www.netiquette.org](http://www.netiquette.org)
2. E-mail etiquette activity (see attachment).

Use a World Wide Web browser to navigate hypertext documents and to download files.

1. Download or upgrade Adobe Reader.

Use Internet search engines and understand their advantages and disadvantages.

1. Assign students roles within a Search Engine organization and debate the advantages and disadvantages for a company to use their service exclusively. EX: Google, Yahoo, Safari, Mozilla, FireFox, etc.

Demonstrate an awareness of computer viruses and a basic understanding of ways to protect a computer from viruses.

1. Have the district technology coordinator serve as a guest speaker.

## **Technical Literacy Standards**

Writing Standards 11-12

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Writing Standards 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Language Standards 11-12

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Course Title **Computer & Technology Applications**

Grade Levels 9-10

Credit Value 1.0

Description Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.

Unit Title Word Processing

### **Technical Content**

1. use a wordprocessing program to create, save, print, modify, spell-check, and grammar-check a simple document.
2. use a word processing program to enhance the appearance of a simple document by using center, right justification, boldface, underline, and italicized text.
3. use a word processing program to change the default margins and line spacing.
4. use a word processing program to create a document with headers, footer, and footnotes.
13. print in landscape and portrait orientations.
24. utilize activities of FBLA as an integral component of course content and leadership development.

### **National Standards**

ISTE.S5B ~ Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.

NBEA.IT5 ~ Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

### **KY Core Academic Standards (Big Idea)**

#### **Communication/Technology - Vocational Studies**

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

#### **Employability Skills - Vocational Studies**

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

#### **Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

### **English/Language Arts Common Core Standards**

CC.9-10.SL.4 Presentation of Knowledge and Ideas: Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

### **21st Century Skills and Knowledge**

ICT (Information, Communications, and Technology) Literacy

### **KOSSA Standards**

2001.AA.3 Communicate and follow directions/procedures

2001.AA.4 Communicate effectively with customers and co-workers

2001.AB.1 Locate and interpret written information

2001.AB.2 Read and interpret workplace documents

2001.AB.4 Record information accurately and completely

- 2001.AB.5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation
- 2001.AB.6 Demonstrate the ability to write clearly and concisely using industry specific terminology
- 2001.AC.3 Implement effective decision-making skills
- 2001.AF.3 Practice safe, legal, and responsible use of technology in the workplace
- 2001.EK.4 Prepare a resume, letter of application, and job application
- 2001.OB.1 Prepare correspondence (e.g., memo, business letter, electronic mail)
- 2001.OB.2 Proofread for all content, format, and keying errors
- 2001.OB.3 Transcribe notes from written and/or recorded formats
- 2001.OB.4 Prepare agenda and compile materials for meetings
- 2001.OE.2 Decide on the best process for reproducing printed materials
- 2001.OE.4 Insert a graphic
- 2001.OE.6 Complete preprinted and electronic forms
- 2001.OE.8 Revise existing documents
- 2001.OE.9 Access the Help function
- 2001.OE.12 Prepare mail merge
- 2001.OE.15 Locate and use templates
- 2001.OE.17 Design and create desktop-publishing documents

### **Learning Targets**

### **Sample Learner Activities - Click in the box to go to Activities**

Use a word processing program to create, save, print, modify, spell-check, and grammar-check a simple document.	1. Type a block style letter using the FBLA formatting guidelines located at <a href="http://www.fbla.org">www.fbla.org</a> .
Use a word processing program to enhance the appearance of a simple document by using centered, right-justified, boldfaced, underlined, and italicized text.	<ol style="list-style-type: none"> <li>1. Create an advertisement for a school-based enterprise or club activity.</li> <li>2. Creating and formatting tables activity (see resources),</li> <li>3. Create a bill of lading activity (see resources).</li> <li>4. Create an invoice activity (see resources).</li> <li>5. Create a purchase order (see resources).</li> </ol>
Use a word processing program to change the default margins and line spacing.	1. Create an agenda for a club meeting.
Use a word processing program to create a document with headers, footers, and footnotes.	<ol style="list-style-type: none"> <li>1. Research a topic and type an unbound report based on the FBLA formatting guidelines found at <a href="http://www.fbla.org">www.fbla.org</a>.</li> <li>2. Creating headers and footers activity (see attachment).</li> </ol>
Print in landscape and portrait orientations.	1. Create and print a sign of your choice. Some examples: room labels, meeting announcements, homework baskets, school store sales, etc.

## **Technical Literacy Standards**

Writing Standards 11-12

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content

Writing Standards 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information

Writing Standards 11-12

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Language Standards 11-12

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Language Standards 11-12

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Description Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.

Unit Title Presentations

**Technical Content**

5. use a presentation program with text body, graphics, and animation.

**National Standards**

ISTE.S2b ~ Communicate information and ideas effectively to multiple audiences using a variety of media and formats.

ISTE.S3c ~ Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.

NBEA.IT5 ~ Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

**KY Core Academic Standards (Big Idea)**

**Communication/Technology - Vocational Studies**

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Employability Skills - Vocational Studies**

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology.

Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

**English/Language Arts Common Core Standards**

CC.9-10.SL.5 Presentation of Knowledge and Ideas: Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

CC.9-10.SL.6 Presentation of Knowledge and Ideas: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9-10 Language standards 1 and 3 on pages 54 for specific expectations.)

**21st Century Skills and Knowledge**

ICT (Information, Communications, and Technology) Literacy

Media Literacy

**KOSSA Standards**

2001.AA.3 Communicate and follow directions/procedures

2001.AA.4 Communicate effectively with customers and co-workers

2001.AB.3 Identify relevant details, facts, and specifications

2001.AB.4 Record information accurately and completely

2001.AB.5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation

2001.AC.3 Implement effective decision-making skills

2001.AF.3 Practice safe, legal, and responsible use of technology in the workplace

2001.AG.1 Use technology appropriately to enhance professional presentations

2001.OB.2 Proofread for all content, format, and keying errors

2001.OE.14 Create high-quality visual aids

## **Learning Targets**

Use a presentation program to create, save, modify, spell-check, and grammar-check a simple presentation.

## **Sample Learner Activities - Click in the box to go to Activities**

1. Create a "how-to" presentation on topic of choice.
2. Create a personal bio presentation.
3. Have fun with PowerPoint activity (see resources).
4. PowerPoint basic terminology (see resources).
5. PowerPoint "All About Me" activity (see resources).

Use a presentation program to enhance the appearance of the slide designs, background colors, and layout.

1. Create a presentation on career choice.
2. Mcguire PowerPoint activity (see resources).

Print in landscape and portrait orientations and for different audiences ~ full page, notes page, and outline.

1. Present one of the previous mentioned presentations to the class and require a handout.

Communicate information and ideas effectively to multiple audiences using a variety of media and formats.

1. Add sound and attention getting features to a presentation.
2. Use of other media ~ Facebook page for a club, Skype sessions, JibJab, Webpage creation, etc.

## **Technical Literacy Standards**

Language Standards 11-12

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Language Standards 11-12

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Writing Standards 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Speaking and Listening 11-12

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence to add interest.

Course Title	<b>Computer &amp; Technology Applications</b>	Grade Levels	9-10	Credit Value	1.0
Description	Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.				
Unit Title	<u>Spreadsheets</u>				

### **Technical Content**

6. use an electronic spreadsheet to create, save, print, modify, and obtain graphs from a simple spreadsheet.
7. use an electronic spreadsheet to perform basic mathematical operations including, but not limited to, addition, subtraction, multiplication, and division.
8. use an electronic spreadsheet to calculate averages and percents.
9. use an electronic spreadsheet program to enhance the appearance of a spreadsheet by changing fonts, foreground, and background colors; and centering text across columns.
13. print in landscape and portrait orientations.
24. utilize activities of FBLA as an integral component of course content and leadership development.

### **National Standards**

- ISTE.S4c ~ Collect and analyze data to identify solutions and/or make informed decisions.
- NBEA.IT5.3 ~ Evaluate the effectiveness of software to solve specific problems.

### **KY Core Academic Standards (Big Idea)**

#### **Economics - Social Studies**

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

#### **Employability Skills - Vocational Studies**

Employability skills will focus on student’s competencies with their work habits and academic/technical skills that will impact an individual’s success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

#### **Financial Literacy - Vocational Studies**

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one’s lifetime. Financial literacy will empower students by providing them with the knowledge, skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

#### **Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

### **English/Language Arts Common Core Standards**

CC.9-10.W.2.a Text Types and Purposes: Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

### **Mathematics Common Core Standards**

- CC.9-12.A.CED.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.\*
- CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.\*

### **21st Century Skills and Knowledge**

Financial, Economic, Business and Entrepreneurial Literacy

### **KOSSA Standards**

- 2001.AA.3 Communicate and follow directions/procedures
- 2001.AB.1 Locate and interpret written information
- 2001.AB.2 Read and interpret workplace documents
- 2001.AB.4 Record information accurately and completely

- 2001.AC.3 Implement effective decision-making skills
- 2001.AD.1 Perform basic and higher level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)
- 2001.AD.4 Use tables, graphs, diagrams, and charts to obtain or convey information
- 2001.AF.3 Practice safe, legal, and responsible use of technology in the workplace
- 2001.OA. 2 Balance bank statements with checkbook
- 2001.OB.2 Proofread for all content, format, and keying errors
- 2001.OE.3 Prepare and print documents in appropriate software
- 2001.OE.5 Design a table
- 2001.OE.14 Create high-quality visual aids
- 2001.OE.16 Prepare spreadsheets including appropriate formulas, headings, and formatting
- 2001.OE.18 Create charts and graphs
- 2001.OE.20 Print spreadsheets and/or formulas using appropriate page setup (e.g., orientation, scaling, margins, headers/footers, print area, gridlines)

### **Learning Targets**

### **Sample Learner Activities - Click in the box to go to Activities**

Use an electronic spreadsheet to create, save, print, modify, and obtain graphs from a simple spreadsheet.	<ol style="list-style-type: none"> <li>1. Analyze income and expenses for a school-based enterprise or club. Create a graph with the information that indicates net income/loss.</li> <li>2. Pie chart activity (see resources).</li> <li>3. Line chart activity (see resources).</li> <li>4. Column chart activity (see resources).</li> </ol>
Use an electronic spreadsheet to perform basic mathematical operations including, but not limited to addition, subtraction, multiplication, and division.	<ol style="list-style-type: none"> <li>1. Create a spreadsheet that records statistics for a sports team. <a href="http://www.maxpreps.com">www.maxpreps.com</a></li> </ol>
Use an electronic spreadsheet to calculate averages and percents.	<ol style="list-style-type: none"> <li>1. Calculate averages and percents for individual items sold within the school store.</li> </ol>
Use an electronic spreadsheet program to enhance the appearance of a spreadsheet by changing fonts, foreground, and background colors; and centering text across columns.	<ol style="list-style-type: none"> <li>1. Create an advanced spreadsheet that gives a breakdown of DECA or FBLA membership, fundraising, registration fees, etc. Include a background that includes the club logo, creative fonts, foreground, and background colors. Include the club theme as a sub-heading that is centered and merged.</li> </ol>
Print in landscape and portrait orientations.	<ol style="list-style-type: none"> <li>1. Print a spreadsheet in landscape and portrait orientations.</li> </ol>

### **Technical Literacy Standards**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Speaking and Listening 11-12

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence to add interest.

Language Standards 11-12

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Course Title	<b>Computer &amp; Technology Applications</b>	Grade Levels	9-10	Credit Value	1.0
Description	Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented.				

Unit Title **Databases**

### **Technical Content**

10. use a database management program to create, maintain, and print reports from a simple relational database.
11. use a database management program to customize the user interface by creating and maintaining forms and reports.
12. use a database management program to query tables using basic query operations such as "and", "or", "not", etc.
13. print in landscape and portrait orientations.
24. utilize activities of FBLA as an integral component of course content and leadership development.

### **National Standards**

ISTE.S4c ~ collect and analyze data to identify solutions and/or make informed decisions.  
 NBEA.IT9 ~ use, plan, develop, and maintain database management systems.

### **KY Core Academic Standards (Big Idea)**

#### **Economics - Social Studies**

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

#### **Employability Skills - Vocational Studies**

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

#### **Information, Communication and Productivity - Technology**

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

### **English/Language Arts Common Core Standards**

CC.9-10.W.6 Production and Distribution of Writing: Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

### **21st Century Skills and Knowledge**

Critical Thinking and Problem Solving

### **KOSSA Standards**

2001.AA.3 Communicate and follow directions/procedures

2001.AB.1 Locate and interpret written information

2001.AB.2 Read and interpret workplace documents

2001.AB.4 Record information accurately and completely

2001.AC.1 Utilize critical-thinking skills to determine best options/outcomes (e.g., analyze reliable/unreliable sources of information, use previous experiences, implement crisis management, develop contingency planning)

2001.AC.2 Utilize innovation and problem-solving skills to arrive at the best solution for current situation

2001.AC.3 Implement effective decision-making skills

2001.AF.3 Practice safe, legal, and responsible use of technology in the workplace

2001.EM.3 Select appropriate technological resources to accomplish work

2001.OB.2 Proofread for all content, format, and keying errors

2001.OC.8 Maintain multiple types of filing systems

2001.OC.10 Set up personal record management system (e.g., telephone numbers, addresses, salaries, employee/customer profiles)

2001.OC.11 Maintain employee emergency contact information

2001.OE.3 Prepare and print documents in appropriate software

2001.OE.11 Develop, revise, and create queries and reports using database software

2001.OE.13 Create and organize electronic files using folders and subfolders

## **Learning Targets**

Use a database management program to create, maintain, and print reports from a simple relational database.

Use a database management program to customize the user interface by creating and maintaining forms and reports.

Use a database management program to query tables using basic query operations such as "and", "or", "not", etc.

Print in landscape and portrait orientations.

## **Sample Learner Activities - Click in the box to go to Activities**

1. Create a simple database with specific demographics ~ addresses for graduation announcements, addresses for special event cards, etc.  
2. Creating databases and tables activity (see resources).  
3. Sunny Valley Elementary School activity (see resources).

1. Use the design view to customize the form or report.  
2. Clover Hill High School activity (see resources).  
3. Jason's studios activity (see resources).

1. Create a database to manage a video rental store customer list. Include the demographics for 25 customers. Run different queries to include the boolean operations.

1. Print a database report in both landscape and portrait orientations.

## **Technical Literacy Standards**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 11-12

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Standards 11-12

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.