Career & Technical Education

Computer Literacy IT

Course Title **110110 - Computer Literacy IT - IC3 Fundamentals** Grade Levels 9-12 Credit Value 1

Description Introduces students to main component of computer literacy including Computer Fundamentals, Key Applications and Living online. Provides an introduction to the computer and the convergence of technology as used in today's global environment. Introduces topics including computer hardware and software, file management, the Internet, e-mail, the social web, green computing, security and computer ethics. Presents basic use of application, programming, systems, and utility software. Basic keyboarding skills are strongly recommended.

Prerequisites

Unit Title Looking at Computers

Technical Content

Describe basic computer functions and use correct computer terminology

National Standards

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:

KY Academic Standards (Big Idea)

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.
Safety and Ethical/Social Issues - Technology
Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

English/Language Arts Standards

CC.9-10.L.4 Vocabulary Acquisition and Use: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.
CC.9-10.L.4.a Vocabulary Acquisition and Use: Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

Mathematics Standards

CC.9-12.N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*

Learning Targets	Sample Learner Activities - Click in the box to go to Activities
Identify what a computer does	-Part lecture with powerpoint of information - Computing Fundamentals
Provide a brief history of the computer	-Lecture on Computer History - powerpoint slides in resource folder - Lesson 1 of A+ curriculum. Book, Computers and Understanding Technology - pages T1-A1 - T1-A14
Explain the different types of personal and multiuser computers	-Lecture on computer types - Computer Fundamentals Power Point
Identify other computer devices such as handheld, mobile, and video game systems	-Lecture with Power Point slides in resource folder
Identify proper ergonomics to improve comfort and safety of the end user	-Activity with assessment in resource folder

Technical Literacy Standards

By the end of 9th-12th grades, read and comprehend literary nonfiction in the grades 9-12 text complexity band proficiently, with scaffolding as needed at the high end of the range.

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.

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.

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.

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Prerequisites

Unit Title Hardware

Technical Content

Identify, describe and explain computer hardware

National Standards

Technology Operations and Concepts

KY Academic Standards (Big Idea)

Safety and Ethical/Social Issues - Technology
Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

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 Standards

CC.9-10.L.4 Vocabulary Acquisition and Use: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

CC.9-10.L.4.a Vocabulary Acquisition and Use: Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

CC.11-12.L.4 Vocabulary Acquisition and Use: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.

CC.11-12.L.4.a Vocabulary Acquisition and Use: Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

Mathematics Standards

CC.9-12.G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

CC.9-12.S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).*

Learning Targets	Sample Learner Activities - Click in the box to go to Activities
Identify the CPU, the parts of the system unit and the motherboard	-Lecture notes with powerpoint slides in resource folder
Briefly describe binary code	-Understanding Binary code activities in resource folder
Identify different storage devices	-Lecture notes with powerpoint slides in resource folder
Highlight different input and output devices and their uses	-Lecture notes with powerpoint slides in resource folder
Explain the different types of printers	-Lecture notes with powerpoint slides in resource folder
Describe communication devices and their purpose	-Lecture notes with powerpoint slides in resource folder
Explain the impact of computers upon society including effects of social technologies, green computing, dangers of excessive use, and disposal of obsolete equipment	-Lecture notes with powerpoint slides in resource folder

Technical Literacy Standards

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Prerequisites

Unit Title File Management

KY 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.

Learning Targets	Sample Learner Activities - Click in the box to go to Activities
Use a graphical user interface-based operating system to manage files, folders and disks	-Powerpoint on different operating systems will be in resource folder
Create folders to organize files	-Creating a folder; renaming a folder or file, Activity 2.32 - in resource folder
Explain file extensions and file properties	-Commonly used file extensions, P. 125 - in resource folder
Review the importance of backing up files and how to do it within the operating system	-Lecture notes - Powerpoint slides in resource folder
Demonstrate how to compress files	-Notes and Compressing files activity along with lesson plan - in resource folder
Use search possibilities to locate files	-Using search activity will be in the resource folder
Re-associate files to a different program	?? as to an activity

Technical Literacy Standards

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.

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

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Prerequisites

Unit Title Application and System Software

KY Academic Standards (Big Idea)

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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.

Learning Targets	Sample Learner Activities - Click in the box to go to Activities
Use a course management system	-Demonstrate to students how Blackboard is utilized by students and teachers. Instructor demonstrate course management systems i.e. Blackboard, Sharepoint, Moodle, etc. Activity - help students sign on to one of the course management systems.
Utilize computer technology as a tool to access, manage, prepare and present information	-Activity - create a powerpoint on the top five technologies, top five trends in technology in new emerging technologies.
Identify trends in information processing and new emerging technologies	-Activity - create a powerpoint on the top five technologies, top five trends in technology in new emerging technologies.
Identify and analyze ethical issues such as copyright, privacy and security as related to computing	-2 Powerpoints discussing ethical issues including copyright, privacy and security - Unit 4, target 4 -2 in resource folder
explain the difference between application, programming, system and utility software	-Powerpoint - Unit 4, targets 5-7 - in resource folder
Use application software packages to prepare basic documents, spreadsheets, databases and presentations	-Powerpoint - Unit 4, targets 5-7 - in resource folder
Identify different types of business and personal software	-Powerpoint - Unit 4, targets 5-7 - in resource folder
Explain system requirements for installing and using software	-Powerpoint notes, Unit 4 target 8 - 10
Explain licensing, freeware, shareware, open source and retail software	-Powerpoint notes, Unit 4 target 8 - 10
explain the difference between application and system software	-Powerpoint notes, Unit 4 target 8 - 10
review different types of system software	-Powerpoint Unit 4 Target 11
Manipulate text and format a document using word processing software	-Activity - create a newsletter to advertise school events - also creating a budget to create the next event include a graph of expenses
create worksheets, use basic formulas and create graphs using spreadsheet software	-Activity - create a newsletter to advertise school events - also creating a budget to create the next event include a graph of expenses

identify the importance of databases in our society and demonstrate the basic use of database software	-What is the largest database in the world - lecture? Discussion with students on importance of a database - i.e. Library of Congress, Google, Facebook, etc. Create a database of your friends and family information i.e. contact list
Create a simple presentation using presentation software	-Create a minimal of 10 slide presentation on the subject "I Like Me"
Discuss ethical issues such as copyright, privacy and security as related to computing	-During this unit on application and software, Unit 4, target 4, discuss further any current in the news ethical issues that will relate i.e. USA today.

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Prerequisites

Unit Title Networking

KY 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.

Learning Targets	Sample Learner Activities - Click in the box to go to Activities
Describe and explain basic data communications and network technologies and functions	-Powerpoint with lecture notes in resource folder, Unit 5, target 1 & 3
review the history of the Internet	-Activity sheet reviewing history included in resource folder
explain how networks work and connecting to them	-Powerpoint with lecture notes in resource folder, Unit 5, target 1 & 3
compare different web browsers	-Powerpoint displaying various web browsers, Unit 5, target 4 & 5
identify different ways to navigate and search the web	-2 Powerpoints displaying various web browsers and ways to navigate the web, Unit 5, target 4 & 5, Unit 5, target 5
review social networking and its impact on today's society	-Activity - students write an essay reviewing social networking and how it impacts their individual life
review forums, discussion boards, blogs, podcasts, etc.	-Activity - instructor introduce and display several forums, discussion boards, blogs, podcasts, etc. and have discussion on differences and how they are alike
review e-commerce and social media marketing	-Powerpoint, Unit 5, target 8 & 10 - i.e. Amazon activity displaying how to open an user account and actually completing a purchase up to credit card purchase
identify and use basic e-mail and Internet functions and understand their capabilities	-Powerpoint - Unit 5, target 9 - in resource folder - activity - students could email the presentation they completed in Unit 4 to instructor
describe globalization and challenges including technological barriers, electronic payments and varying cultures	-Powerpoint, Unit 5, Target 8 & 10 - in resource folder
describe cloud computing and its impact on business and personal systems	-Instructor explains cloud computing, advantages and disadvantages, discussing impact on the business world and personal systems - activity - possibly have students skype another classroom creating a debate whether cloud computing will be here today and gone tomorrow?

Technical Literacy Standards

By the end of grades 9-12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

In grades 9-12, write arguments focused on discipline-specific content.