

Information Technology Career Cluster
Introduction to Digital Technology
Course Number 11.41500

Course Description

Introduction to Digital Technology is the foundational course for Web & Digital Communications, Programming, Advanced Programming, Information Support & Services, and Network Systems pathways. This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks are all taught in a computer lab with hands-on activities and project-focused tasks. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world.

Introduction to Digital Technology is a course that is appropriate for all high school students. The pre-requisite for this course is advisor approval.

Course Standard 1

IT-IDT-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening

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	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé
Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship

				Staying Motivated to Search
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1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership

Cross-Cultural Etiquette			
Working in a Cubicle			

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:

Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses. Additional Georgia Standards of Excellence ELA/Literacy standards for Speaking and Listening are listed in the foundational course standards below.

Course Standard 2

IT-IDT-2

Explore, research, and present findings on positions and career paths in technology and the impact of technology on chosen career area.

- 2.1 Develop technical reading and writing skills to follow instructions.
- 2.2 Work in a team to solve problems and share knowledge.
- 2.3 Explore the impact of digital technology on careers including non-traditional technology fields and careers in each of the Georgia Career Clusters.
- 2.4 Use collaborative tools to communicate with team members.
- 2.5 Describe how computing enhances traditional careers, and enables new careers.
- 2.6 Research post-secondary options for continuing education in IT field.
- 2.7 Research IT credentials needed and job requirements in various occupations.
- 2.8 Describe the impact of having web design skills to build skills for chosen career.
- 2.9 Explore the game design industry for design, creation, and career options.

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence

ELACC9-10SL1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

ELACC9-10SL2: Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

ELACC9-10SL4: 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.

Course Standard 3

IT-IDT-3

Demonstrate effective professional communication skills (oral, written, and digital) and practices that enable positive customer relationships.

- 3.1 Recognize the importance of all customers to a business.
 - a. Identify organization's products and services.
 - b. State the IT influence and impact on business.
 - c. Communicate how technology can be used to create a solution to business challenge and present to customer in professional business format.
- 3.2 Demonstrate ability to assist customers in a professional manner.
 - a. Actively listen to customers.
 - b. Determine customers' individual needs.
 - c. Project a professional business image (e.g., appearance, voice, grammar, word usage, enunciation, nonverbal communication).
 - d. Interact with customers and colleagues in a professional manner (e.g., prompt, friendly, courteous, respectful, helpful, knowledgeable, and understandable).

- e. Ensure that your assistance promotes the best interests of the company.
- 3.3 Determine the best method to maintain a customer list and communication platform.
- 3.4 Demonstrate understanding of word processing, spreadsheet, presentation, and database software as a communication tool for business.

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Course Standard 4

IT-IDT-4

Identify, describe, evaluate, select and use appropriate technology.

- 4.1 Identify hardware device functions, including peripherals devices, input devices, and portable hardware appropriate for specific tasks and emerging hardware as it impacts information technology.
- 4.2 Demonstrate understanding of set up a basic computer workstation.
 - a. Identify various computer types, internal components, connectors, monitors, keyboards, mice, printers, computer voltage, and power requirements.
- 4.3 Describe and explore current and emerging software, including operating systems and application software.
 - a. Explain the function and purpose of software tools.
- 4.4 Compare and contrast various hardware and software options for personal and business use.

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Course Standard 5

IT-IDT-5

Understand, communicate, and adapt to a digital world.

- 5.1 Develop a working IT vocabulary.
- 5.2 Describe trends in emerging, evolving, and future computer technologies and their influence on IT practices.
 - a. Mobile technology, computing tablets, cloud computing.
- 5.3 Recognize online risks and dangers in order to take appropriate actions to protect the business and self while using digital tools and resources.

- 5.4 Demonstrate ability to access, navigate and use online resources and technologies.
- 5.5 Define and demonstrate folder and file management and the importance of data back-up procedures.

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Course Standard 6

IT-IDT-6

Explore and explain the basic components of computer networks.

- 6.1 Develop a working networking vocabulary including networking media, topologies, network operating systems, models and protocols, codes and standards, addressing, diagnostics, routing, WAN services, network security networking software, tools, and equipment.
- 6.2 Illustrate and describe the functions of various types of networks including wireless.
- 6.3 Explain key issues in data transmission.
- 6.4 Characterize the purposes, features and functions of the following network components: Switches, Bridges, Routers, Gateways, CSU / DSU, NICs, ISDN adapters, WAPs, Modems, Transceivers, Firewalls.
- 6.5 Identify factors which affect the range and speed of wireless service.
- 6.6 Explore networking trends and issues affecting business and personal use.

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Course Standard 7

IT-IDT-7

Use computational thinking procedures to analyze and solve problems.

- 7.1 Apply strategies for identifying routine hardware and software problems current to everyday life.
- 7.2 Identify compatibility issues and describe operational problems caused by hardware errors.
- 7.3 Explain how technology can be used to solve problems.
- 7.4 Explain software development process used to solve problems.
- 7.5 Explore commonly used documentation tools for design specifications.
 - a. Flowcharts, visual and textual storyboards.

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Course Standard 8

IT-IDT-8

Create and organize webpages through the use of a variety of web programming design tools.

- 8.1 Understand and apply design principles to create professional appearing and functioning web pages.
- 8.2 Understand elements of web design.
 - a. HTML, CSS, responsive design, site usability, relation of site to business, story the site reveals about the business.
- 8.3 Design simple webpages incorporating media elements (e.g., sound, video, graphics, text, motion graphics), navigation, and linking.
- 8.4 Explain the impact of mobile sites on the development of business.
- 8.5 Explore the trends and emerging issues for websites.

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Course Standard 9

IT-IDT-9

Design, develop, test and implement programs using visual programming.

- 9.1 Utilize drag and drop software to develop programs.
- 9.2 Understand and use objects.
- 9.3 Explain how sequence, selection, iteration are building blocks of algorithms.
- 9.4 Explore mobile devices/emulators to design develop and implement mobile computing applications.
- 9.5 Use various debugging and testing methods to ensure program correctness.
- 9.6 Describe a variety of programming languages used to solve problems.
- 9.7 Incorporate music and art to enhance creativity in projects.

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ELACC9-10SL5: 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.

Course Standard 10

IT-IDT-10

Describe, analyze, develop and follow policies for managing ethical and legal issues in the business world and in a technology-based society.

- 10.1 Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors.
- 10.2 Recognize the ethical and legal issues while accessing, creating, and using digital tools and resources in order to make informed decisions.
- 10.3 Exercise digital citizenship as a lifelong learner.
 - a. Promote and model digital etiquette and responsible social technology interactions, permanence of digital footprints, online image and presence, etc.
- 10.4 Understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
- 10.5 Describe personal and legal consequences of inappropriate use of resources and online content.
 - a. Plagiarism, piracy, illegal downloading, copy-right infringement, licensing infringement, inappropriate use of software, hardware and mobile devices.
- 10.6 Identify security issues and trends affecting computers and information privacy.
 - a. Virus, open or free networks, user control methods, file sharing, etc.
- 10.7 Describe the use of computer forensics to prevent and solve information technology crimes and security breaches.
- 10.8 Identify criminal activity in relationship to cybercrime, the Internet, and Internet trafficking.
 - a. Common internet crimes, techniques to identify criminal activity and prevention actions related to cybercrime.

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Course Standard 11

IT-IDT-11

Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.

- 11.1 Explain the goals, mission and objectives of Future Business Leaders of America.
- 11.2 Explore the impact and opportunities a student organization (FBLA) can develop to bring business and education together in a positive working relationship through innovative leadership and career development programs.

- 11.3 Explore the local, state, and national opportunities available to students through participation in related student organization (FBLA) including but not limited to conferences, competitions, community service, philanthropy, and other FBLA activities.
- 11.4 Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.
- 11.5 Explore the competitive events related to the content of this course and the required competencies, skills, and knowledge for each related event for individual, team, and chapter competitions.

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