

Introduction to PC Applications

Level: 1

Career Cluster: Digital Technology

Program: Information Technology

Pathway(s): Coding, Networking Systems and Security, Web Design

Course Catalog Description

This introductory course develops students' digital literacy and foundational skills in personal computer applications used in school, work, and everyday life. Students learn to use operating systems, manage files, create documents, work with spreadsheets and presentations, conduct online research, and communicate responsibly using digital tools.

Summary

This course introduces students to the foundational knowledge and practical skills needed to use personal computer applications effectively in academic, personal, and workplace settings. Through hands-on learning, students develop digital literacy by exploring computer hardware and software, operating systems, file management, word processing, spreadsheets, presentations, internet research, and digital communication tools. Students also practice organizing information, creating professional-quality digital products, and applying productivity software to complete authentic tasks and projects. Emphasis is placed on responsible technology use, digital citizenship, problem-solving, collaboration, and the development of transferable skills that support success in future coursework, career pathways, and everyday life.

Notes

Compared with the previous version of the course, this updated document reflects a significant expansion in both scope and organization, repositioning Introduction to PC Applications as a more clearly structured and comprehensive foundational digital literacy course. The revised course places greater emphasis on the intentional development of practical technology skills through clearly defined sections, objectives, and student learning outcomes that address computer fundamentals, file management, word processing, spreadsheets, presentations, internet research, digital communication, and integrated digital projects. In addition to strengthening core application skills, the new document also broadens the course focus to include digital citizenship, responsible technology use, problem-solving, and real-world application of productivity tools. Another notable update is the stronger alignment to career readiness expectations through the inclusion of career exploration, postsecondary opportunities, work-based learning, leadership development, and CTSO integration. Overall, the revised document modernizes the course by making expectations more explicit, improving instructional coherence, and better connecting introductory computer application skills to academic success, workplace readiness, and future career pathways in information technology.

Student Learning Outcomes

1. Career Exploration and Postsecondary Opportunities

Objective: *Students will analyze career pathways in information technology, exploring industry roles, workplace expectations, required education, certifications, professional organizations, and postsecondary opportunities available in Colorado in order to make informed academic and career decisions.*

- 1) Identify employment opportunities in various fields with a focus in the area of information technology
 - a. Recognize the work typically performed, tools and technology used, and nature of work environments
 - b. Identify potential certifications within the careers
 - c. Find membership organizations associated with the careers
 - d. Understand the necessary education associated within the careers
- 2) Define professionalism within the context of information technology
 - a. Criticism and evaluation
 - b. Presentation
 - c. Assessment
- 3) Recognize laws, regulations, and ethics significant to the fields of information technology
- 4) Identify postsecondary opportunities offered in the state of Colorado
 - a. Technical college, community college, 4-year institutions
 - b. Certificates, associates, bachelor, and advanced degree opportunities

2. Computer Fundamentals and Digital Literacy

Objective: *Students will develop foundational knowledge of computer systems, terminology, and responsible digital use.*

- 5) Identify basic computer hardware, software, and system components.
- 6) Define common computer terminology related to personal computers.
- 7) Describe the functions of input, output, processing, and storage devices.
- 8) Explain how computers are used in school, work, and daily life.
- 9) Demonstrate appropriate digital citizenship and responsible technology use.
- 10) Recognize basic troubleshooting steps for common computer issues.

3. File Management and Operating Systems

Objective: *Students will manage files and navigate operating system tools to organize and store digital information.*

- 11) Navigate the operating system to access files and applications.
- 12) Create folders and organize files using logical structures.
- 13) Demonstrate saving, retrieving, and managing files.
- 14) Use basic system tools to manage documents and applications.
- 15) Apply file naming conventions and organization strategies.
- 16) Identify appropriate storage methods (local, cloud, removable media).

4. Word Processing and Document Design

Objective: Students will create and format professional documents using word processing software.

- 17) Create basic documents using word processing software.
- 18) Format text using fonts, spacing, alignment, and styles.
- 19) Insert tables, images, and simple design elements.
- 20) Use tools such as spell check and formatting features.
- 21) Organize content into clear, readable documents.
- 22) Apply basic document design principles for readability.
- 23) Produce a formatted document for a real-world purpose (letter, flyer, report).

5. Spreadsheets and Data Management

Objective: Students will organize, calculate, and interpret data using spreadsheet tools.

- 24) Identify parts of a spreadsheet (cells, rows, columns).
- 25) Enter and format data in a worksheet.
- 26) Use basic formulas and functions (addition, averages).
- 27) Create simple charts or graphs to display data.
- 28) Organize data using sorting or filtering tools.
- 29) Interpret data displayed in tables or charts.
- 30) Apply spreadsheets to solve basic real-world problems.

6. Presentation Design and Communication

Objective: Students will create visual presentations that communicate information clearly and effectively.

- 31) Create a basic presentation using slide software.
- 32) Insert text, images, and multimedia elements.
- 33) Apply design themes and slide layouts.
- 34) Organize information logically across slides.
- 35) Demonstrate basic presentation skills.
- 36) Apply visual design principles for clarity and simplicity.
- 37) Present information to an audience using digital tools.

7. Internet Research and Digital Communication

Objective: Students will use the internet to locate, evaluate, and communicate information responsibly.

- 38) Use web browsers to access online information.
- 39) Conduct basic searches using keywords and strategies.
- 40) Identify reliable and appropriate online sources.
- 41) Explain safe and responsible internet use.
- 42) Use email or digital tools for communication.

- 43) Summarize information collected from online sources.
- 44) Demonstrate awareness of digital footprint and online safety.

8. Integrated Digital Project

Objective: *Students will apply multiple computer applications to complete a project demonstrating their skills.*

- 45) Create a project using word processing, spreadsheets, or presentations.
- 46) Apply skills from multiple application tools in one task.
- 47) Organize information into a clear and structured format.
- 48) Present completed work to an audience.
- 49) Reflect on the process used to complete the project.

9. Work-Based Learning

Objective: *Students will apply basic computer application skills through real-world or workplace-connected experiences.*

- 50) Describe how computer applications are used in workplace settings.
- 51) Participate in real work tasks using digital tools (documents, spreadsheets, presentations).
- 52) Follow directions to complete tasks for a teacher, client, or project scenario.
- 53) Demonstrate appropriate behavior when working on assigned tasks.
- 54) Use basic technology tools to complete real-world assignments.
- 55) Record tasks completed and tools used during activities.
- 56) Explain how classroom skills connect to real-world applications.

10. Leadership in Digital Environments

Objective: *Students will develop basic leadership, teamwork, and communication skills in technology-based environments.*

- 57) Describe the role of leadership in group work and technology projects.
- 58) Demonstrate teamwork skills during collaborative activities.
- 59) Communicate respectfully with peers during group work.
- 60) Take responsibility for completing assigned tasks.
- 61) Demonstrate organization and time management during projects.
- 62) Identify personal strengths when working with others.
- 63) Reflect on how they contributed to a team or project.

11. Career and Technical Student Organizations

Objective: *Using the CTSO Resource Document, chapter activities will provide some of the best opportunities CTSO members will have to learn by doing. A successful program of work creates a positive learning atmosphere in the classroom. CTSO members learn how to accept responsibility, work as a team, manage a budget, and handle success and failure. Per the CTE Admin Handbook, CTSOs are embedded into curriculum.*

Professional Development

Prepare each member for entry into the workforce and provide a foundation for success in a career. Becoming a professional does not stop with acquiring a skill, but involves an increased awareness of the meaning of good citizenship and the importance of labor and management in the world of work.

Community Service

Promote and improve goodwill and understanding among all segments of the community through services donated by CTSO chapters, and to instill in its members a lifetime commitment to community service.

Business and Industry Connections

Increase awareness of quality job practices and attitudes, and increase the opportunities for employer engagement and eventual employment.

Financial Leadership

Plan and participate in activities to allow all members to carry out the chapter's projects. Educate members on their own personal finance for current and future success.

Public Relations

Make the general public aware of the good work that students in career and technical education are doing to better themselves and their community, state, nation, and world.

Social Activities

To increase cooperation in the school and community through activities that allow CTSO members to get to know each other in something other than a business or classroom setting.

Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)
[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Note: Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.

Reading, Writing and Communicating Crosswalk

Course: Introduction to PC Applications

Colorado Academic Standards – Reading, Writing, and Communicating

Standard	Prepared Graduate Competency	Description	Course Evidence / Alignment
Standard 1: Oral Expression and Listening	Prepared Graduate 1 – Collaboration	Collaborate effectively as group members or leaders	Students routinely collaborate during technology-based projects, peer troubleshooting, group discussions, and CTSO-related activities, requiring active listening, shared problem-solving, and contribution toward common objectives.
Standard 1: Oral Expression and Listening	Prepared Graduate 2 – Oral Presentations	Deliver effective oral presentations for varied audiences and purposes	The course includes student presentations, demonstrations of software skills, and opportunities to explain technical processes to peers and instructors.
Standard 2: Reading for All Purposes	Prepared Graduate 4 – Informational Texts	Read a wide range of informational texts	Students read and interpret technical instructions, software

			documentation, online help resources, and digital informational texts to build applied knowledge.
Standard 3: Writing and Composition	Prepared Graduate 7 – Informational Writing	Craft informational/explanatory texts	Students create documents, spreadsheets, databases, and presentation materials that explain information clearly and are tailored to purpose and audience.
Standard 3: Writing and Composition	Prepared Graduate 9 – Writing Process	Demonstrate mastery of the writing process	Students revise and polish digital documents and presentations, ensuring clarity, accuracy, formatting, and error-free final products.
Standard 4: Research Inquiry and Design	Prepared Graduate 10 – Research and Ethics	Gather, analyze, and ethically use information from multiple sources	Students conduct online research, evaluate digital sources, use information ethically, and apply it within projects and presentations.

Free Resource Links

1. Career Exploration and Postsecondary Opportunities

- Google Applied Digital Skills Career Readiness (career exploration, job readiness, digital literacy)
<https://applieddigitalskills.withgoogle.com>
- OER Commons Introduction to Computer Applications (computer applications, college readiness, technology careers)
<https://oercommons.org/courseware/lesson/92454/overview>
- PCs for People Learning Center (digital skills, workforce preparation, computer training)
<https://www.pcsforpeople.org/learning-center/>
- Colorado Community College System (postsecondary pathways, certificates, associate degrees)
<https://cccs.edu>

2. Computer Fundamentals and Digital Literacy

- Google for Education Digital Literacy Overview (digital literacy, technology skills, digital citizenship)
<https://support.google.com/googleforeducation/answer/10280091?hl=en>
- GCFGlobal Computer Basics (computer parts, basic operations, beginner technology skills)
<https://edu.gcfglobal.org/en/computerbasics/>
- DigitalLearn Computer Basics (introductory computing, mouse and keyboard skills, digital basics)
<https://www.digitallearn.org>
- Northstar Digital Literacy (digital literacy standards, foundational technology competencies, assessments)
<https://www.digitalliteracyassessment.org>

3. File Management and Operating Systems

- GCFGlobal Getting Started with Your Computer (files and folders, operating systems, navigation)
<https://edu.gcfglobal.org/en/gettingstartedwithyourcomputer/>
- Microsoft Support Windows Help and Learning (Windows basics, file management, system tools)
<https://support.microsoft.com/windows>
- DigitalLearn File Storage (saving files, cloud storage, storage devices)
<https://www.digitallearn.org>
- Applied Digital Skills Organize Files in Google Drive (file organization, cloud storage, productivity)
<https://applieddigitalskills.withgoogle.com>

4. Word Processing and Document Design

- GCFCGlobal Word (word processing, formatting, document creation)
<https://edu.gcfglobal.org/en/word/>
- Microsoft Support Word Help and Learning (Word features, templates, formatting tools)
<https://support.microsoft.com/word>
- Applied Digital Skills Create a Resume (document design, professional writing, formatting)
<https://applieddigitalskills.withgoogle.com>
- Read Write Think Printing Press (writing layout, flyers, brochures, publishing)
<https://www.readwritethink.org/classroom-resources/student-interactives/printing-press-30036.html>

5. Spreadsheets and Data Management

- GCFCGlobal Excel (spreadsheets, formulas, charts, data organization)
<https://edu.gcfglobal.org/en/excel/>
- Microsoft Support Excel Help and Learning (Excel basics, functions, tables, graphing)
<https://support.microsoft.com/excel>
- Khan Academy Statistics and Probability (data interpretation, graphs, averages, analysis)
<https://www.khanacademy.org/math/statistics-probability>
- Applied Digital Skills Use Spreadsheets to Track Data (data entry, formulas, real world spreadsheet use)
<https://applieddigitalskills.withgoogle.com>

6. Presentation Design and Communication

- GCFCGlobal PowerPoint (presentation design, slide layouts, multimedia)
<https://edu.gcfglobal.org/en/powerpoint/>
- Microsoft Support PowerPoint Help and Learning (slides, themes, transitions, presenting)
<https://support.microsoft.com/powerpoint>
- Applied Digital Skills Create an Informational Presentation (presentation planning, visual communication, audience awareness)
<https://applieddigitalskills.withgoogle.com>
- Canva Design School Presentations (visual design, slide organization, communication)
<https://www.canva.com/designschool/>

7. Internet Research and Digital Communication

- Common Sense Education Digital Citizenship (online safety, digital footprint, responsible communication)
<https://www.commonsense.org/education/digital-citizenship>
- GCFCGlobal Internet Basics (web browsing, search strategies, online information)
<https://edu.gcfglobal.org/en/internetbasics/>

- DigitalLearn Intro to Email (email basics, digital communication, online etiquette)
<https://www.digitallearn.org>
- Google Applied Digital Skills Super Searchers (research skills, source evaluation, information literacy)
<https://applieddigitalskills.withgoogle.com>

8. Integrated Digital Project

- Applied Digital Skills Project Based Lessons (integrated projects, digital products, applied technology skills)
<https://applieddigitalskills.withgoogle.com>
- OER Commons Open Textbooks (project resources, open educational materials, technology applications)
<https://oercommons.org/hubs/open-textbooks>
- Google Workspace Learning Center (docs, sheets, slides, collaborative projects)
<https://workspace.google.com/learning-center/>
- Microsoft 365 Training (integrated office tools, productivity projects, collaboration)
<https://support.microsoft.com/training>

9. Work Based Learning

- CareerOneStop Explore Careers (career awareness, workplace skills, job research)
<https://www.careeronestop.org/ExploreCareers/explore-careers.aspx>
- Google Applied Digital Skills Prepare for Your First Job (employability, workplace tasks, job preparation)
<https://applieddigitalskills.withgoogle.com>
- Junior Achievement Career Readiness (workplace connections, employability, career planning)
<https://jausa.ja.org>
- CDE Work Based Learning (Colorado work based learning, career development, industry connections)
<https://www.cde.state.co.us/postsecondary/workbasedlearning>

10. Leadership and Employability Skills

- Skills to Succeed Academy (employability, communication, teamwork, professionalism)
<https://skillstosucceedacademy.accenture.com>
- Common Sense Education Digital Leadership (responsible leadership, online collaboration, communication)
<https://www.commonsense.org/education>
- Google Applied Digital Skills Teamwork Lessons (collaboration, group projects, shared responsibility)
<https://applieddigitalskills.withgoogle.com>



Technology Student Association – National Competitive Events

Prepared Presentation

Objective: *Students will prepare and deliver an oral presentation with a digital slide deck on a contemporary STEM topic aligned with TSA Prepared Presentation competition requirements.*

- Research the annual TSA Prepared Presentation theme and connect it to science, technology, engineering, or mathematics.
- Develop a focused presentation that clearly communicates a central message related to the annual theme.
- Create a digital slide deck that enhances the presentation without distracting from the speaker.
- Organize content into a clear introduction, body, and conclusion.
- Practice professional speaking skills, including pacing, eye contact, vocal delivery, and transitions.
- Deliver the presentation within the required three-to-five-minute time limit.
- Evaluate presentations using TSA criteria for content, organization, delivery, slide deck quality, and connection to the theme.

Resources

- Technology Student Association – Prepared Presentation competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- National Speech & Debate Association – Public speaking resources
<https://www.speechanddebate.org/>
- Canva – Presentation design tools
<https://www.canva.com/>
- Google Slides – Digital slide deck creation
<https://www.google.com/slides/about/>



Technology Student Association – National Competitive Events

Data Science and Analytics

Objective: *Students will collect, analyze, visualize, document, and present a data set connected to the annual TSA Data Science and Analytics theme.*

- Research the annual TSA Data Science and Analytics theme and identify a focused topic for investigation.
- Collect or compile a data set of at least 500 rows from credible and relevant sources.
- Analyze data to identify trends, patterns, relationships, limitations, and possible predictions.
- Create a digital scientific poster that communicates the research question, data source, visualizations, analysis, and findings.
- Prepare a documentation portfolio explaining methods, data collection, analysis, conclusions, and resources.
- Present the digital scientific poster within the TSA time limit using clear, evidence-based communication.
- Complete an on-site semifinal challenge by creating a visual representation and brief synopsis from a provided data set.

Resources

- Technology Student Association – Data Science and Analytics competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Google Sheets – Spreadsheet and data organization tools
<https://www.google.com/sheets/about/>
- Tableau Public – Data visualization tools
<https://public.tableau.com/>
- Google Dataset Search
<https://datasetsearch.research.google.com/>



Technology Student Association – National Competitive Events

Promotional Design

Objective: *Students will design, produce, document, and present promotional materials that meet TSA Promotional Design requirements for branding, visual communication, production quality, and portfolio documentation.*

- Research the annual TSA Promotional Design theme, target audience, required products, and branding expectations.
- Develop a consistent visual identity using appropriate typography, layout, color, imagery, and design principles.
- Create required promotional items that communicate a clear theme, message, and purpose.
- Use digital design tools and production methods to prepare clean, professional, and usable final products.
- Document the design process through sketches, drafts, production notes, references, and required portfolio materials.
- Prepare final promotional products for submission or display according to TSA event procedures.
- Evaluate the final entry using TSA criteria for creativity, consistency, production quality, communication, and theme alignment.

Resources

- Technology Student Association – Promotional Design competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Canva – Branding, layouts, and promotional design templates
<https://www.canva.com/>
- Adobe Express – Promotional graphics and design tools
<https://www.adobe.com/express/>
- Microsoft Office Templates – Documents, presentations, and design layouts
<https://create.microsoft.com/>