



Computer Applications

Primary Career Cluster:	Business Management & Administration
Course Contact:	CTE.Standards@tn.gov
Course Code(s):	C12X00
Prerequisite(s):	None
Credit:	½ - 1
Grade Level:	7-8
Focused Elective Graduation Requirements:	This course does not satisfy credit attainment for concentrator status, because it is not part of an approved program of study.
Programs of Study and Sequence	This course serves as a middle school primer for all programs of study in the Business Management & Administration, Finance, and Marketing, Distribution and Logistics career clusters.
Aligned Student Organization(s):	FBLA: http://www.fblatn.org
Promoted Tennessee Student Industry Credentials:	Credentials are aligned with postsecondary and employment opportunities and with the competencies and skills that students acquire through their selected program of study. For a listing of promoted student industry credentials, visit https://www.tn.gov/education/educators/career-and-technical-education/student-industry-certification.html .
Teacher Endorsement(s):	030, 033, 037, 039, 041, 052, 054, 055, 057, 152, 153, 158, 201, 202, 203, 204, 311, 430, 431, 432, 434, 435, 436, 471, 472, 474, 475, 476, 952, 953, 958
Required Teacher Certifications/Training:	None
Teacher Resources:	https://www.tn.gov/education/educators/career-and-technical-education/career-clusters/cte-cluster-business-management-administration.html Best for All Central: https://bestforall.tnedu.gov/

Course at a Glance

CTE courses provide students with an opportunity to develop specific academic, technical, and 21st century skills necessary to be successful in career and in life. In pursuit of ensuring every student in Tennessee achieves this level of success, we begin with rigorous course standards which feed into intentionally designed programs of study.

Students engage in industry relevant content through general education integration and experiences such as career and technical student organizations (CTSO) and work-based learning (WBL). Through these experiences, students are immersed with industry standard content and technology, solve industry-based problems, meaningfully interact with industry professionals and use/produce industry specific, informational texts.

Using a Career and Technical Student Organization (CTSO) in Your Classroom

CTSOs are a great resource to put classroom learning into real-life experiences for your students through classroom, regional, state, and national competitions, and leadership opportunities. Below are CTSO connections for this course, note this is not an exhaustive list.

- Participate in CTSO Fall Leadership Conference, FBLA Fall Leadership Camps, FBLA Regional and State Leadership Conferences to engage with peers by demonstrating logical thought processes and developing industry specific skills that involve teamwork and project management.
- Participate in FBLA Middle School career competitive events that highlight career development, including developing business ethics, business etiquette, and career exploration.
- Participate in FBLA Middle School competitive events such as Career Research, Critical Thinking, Digital Citizenship, Exploring Technology, and Multimedia and Website .

For more ideas and information, visit Tennessee FLBA at <https://www.fblatn.org/>.

Using Work-Based Learning (WBL) in Your Classroom

Sustained and coordinated activities that relate to the course content are the key to successful work-based learning. Possible activities for this course include the following. This is not an exhaustive list.

- **Standard 1.1–1.5** | Guest speakers to discuss potential occupations in business and finance and required technology skills and knowledge.
- **Standards 2.1–2.5, 6.1–6.5** | Guest speakers from business and industry to enhance students' knowledge of the importance and application and word processing and desktop publishing programs. Students can apply knowledge of document properties, formatting, text structure tools, etc. to updating their resumes, job letters, and other job materials for ideal careers in the industry.
- **Standards 3.1-3.4** | Invite business and industry professionals to develop students' skills in spreadsheet applications using Microsoft Excel and/or Google Sheets based on how they are used in day-to-day business tasks.
- **Standards 4.1–4.3** | Using presentation software, students create, design, and deliver a presentation to their instructor, peers, and panel of business and industry professionals on approved course-related topics.
Standards 5.1-5.2 | Students deliver presentations on topics related to digital citizenship and technical literacy to a guest panel of business and industry professionals for discussion and feedback.

Course Description

Computer Applications is a foundational course intended to teach students the computing fundamentals and concepts involved in the use of common software applications. Upon completion of this course, students will gain basic proficiency in word processing, spreadsheets, and presentations. In addition, students will have engaged in key critical thinking skills and will have practiced ethical and appropriate behavior required for the responsible use of technology.

Course Standards

1. Communication Networks, the Internet, and Technology Operations

- 1.1 Information Technology: Research **recent developments** in information technology affecting the supply/demand characteristics of the **job market**, including **career pathways** and **occupational outlooks** for occupations in business and finance that require information technology expertise. Synthesize findings into a presentation highlighting the typical roles and responsibilities of professionals in high-growth occupations.
- 1.2 Computer Usage: Identify, connect, and demonstrate the **correct usage** of elements of a desktop computer, including a monitor, keyboard, mouse, network cable, and USB devices (e.g., camera, memory, or scanner). Perform **basic troubleshooting** as needed for situations involving these components (i.e., if the computer does not recognize a device).
- 1.3 File Management: Correctly and safely execute **basic file management operations** on a typical computer and shared storage media, including the **opening, creating, copying, moving, deleting, and renaming** of files and folders, as well as searching for a specified file or folder on local or networked storage media.
- 1.4 Cloud Storage and Collaboration: Research effective use of **cloud storage, online digital collaboration platform, and file sharing applications**. Recommend and effectively employ the appropriate file storage and sharing solution for a given project.
- 1.5 Internet Connections: Compare and contrast the **accessibility of the Internet** through a **home router** versus through a **public wi-fi** access point. Discuss the risks and advantages of using secure home networks versus publicly accessible networks.

2. Word Processing*

- 2.1 Create Documents: Use a word processing program to **create and format documents** with academic and **business styles** (e.g., memos, letters, agendas, reports, tabular lists) to communicate the results of research, meetings, lab reports, and relevant assignments in this course.
- 2.2 Word Processing Features: Craft documents using word processing program **features and methods** such as:
 - a. paragraph formatting (line spacing, justification, indentations);
 - b. bulleted and numbered lists;
 - c. tables of multiple columns, with and without borders;
 - d. margins, headers, footers, page numbers, and footnotes;

- e. Typeface fonts and weights, including hyperlinks;
 - f. capitalization, punctuation, number expression, and grammar;
 - g. printing orientation, one- or two-sided, to a selected printer;
 - h. bibliographies and tables of contents; and
 - i. saving to a file that can be shared and/or transported, including saving to cloud-based or external sources.
- 2.3 Graphics: Enhance documents by including **graphic arts components** such as borders and shaded elements, graphs and charts from other programs, watermarks, and imagery imported from technology devices and drives, as well as sources retrieved from the Internet, including adding citations and/or captions for each element when appropriate.
- 2.4 Distribution Preparation: **Create, format, and edit documents** suitable for **print or electronic distribution**, both four-color and two-color (black and white).
- 2.5 Editing: Critique and **edit** existing documents with standard **proofreading and editing marks** to conform to a standard business style guide (e.g., fonts, colors, line spacing). Practice the use of **electronic revision marks and comments**, where supported.

3. Spreadsheet Applications*

- 3.1 Spreadsheet Creation: Use a spreadsheet program to **create and format** and business spreadsheets for the purposes of tabulating and calculating numerical and/or textual data (e.g., statistics, historical data, measurements), such as budget calculations, sales reports, lab data, and related analyses.
- 3.2 Format Spreadsheets: **Format spreadsheets** using **features and methods** such as:
- a. cells, columns, and rows;
 - b. formulas and functions;
 - c. copy, move, delete, and fill;
 - d. cell-value formats (numerical and text) and alignment;
 - e. column and row width/height, insert/delete, and move;
 - f. printing to a selected printer; and
 - g. saving with a file format that can be shared and/or transported.
- 3.3 Formulas: Create new **formulas** to analyze data by **calculating** with, **extracting** from, **presenting**, and/or **summarizing**, including:
- a. basic arithmetic calculations;
 - b. basic mathematic (e.g., SUM, AVG, MIN, MAX) and text (e.g., LEN, LEFT, RIGHT, MID) functions;
 - c. copying formulas that include both relative and absolute cell references;
 - d. sorting in ascending/descending order;
 - e. filtering data to retrieve specific values; and
 - f. basic conditional formatting (i.e., red for negative values).
- 3.4 Graphs and Charts: **Create and format** for optimal clarity a variety of types of graphs and charts, including **bar charts, line charts, pie charts**, and X-Y graphs, based on tabulated data.

4. Presentation Software*

- 4.1 Presentation Design: **Design, create, and deliver** an oral **presentation** with supporting slides for a selected audience on a topic approved by the instructor. Using a specified slide number and duration, include the following elements:
- a selected theme (i.e., colors, background, fonts, etc.),
 - bulleted text based on a chosen style,
 - photographs and other imagery,
 - charts and graphs,
 - video and animated graphics, and
 - animated transitions of slides and components within a slide.
- 4.2 File Formats: Save the **file in a format** that can be **printed** and/or shared with the audience such as a **PDF** of the presentation and **notes pages**.
- 4.3 Automated Slide Show: Design, create, and deliver a **self-running electronic slideshow** for a selected audience on a topic approved by the instructor. Using a specified slide number and duration, include the following elements:
- a selected theme (i.e., colors, background, fonts, etc.),
 - photographs and other imagery,
 - video and animated graphics, and
 - animated transitions of slides.

5. Digital Citizenship

- 5.1 Ethical Technology Use: Research, summarize, and deliver (via presentation, document, spreadsheet data/chart, or other format) a summary of the **various perspectives and ramifications** surrounding an ethical issue related to **current technology usage**. Develop and strengthen claim(s) and counterclaim(s) about the issue, citing supportive evidence. Potential issues include AI, VR, spam, cyberbullying, libel, slandering, and mining of personal data for profit.
- 5.2 Copyright Implications and Intellectual Property: Research, summarize, and deliver (via presentation, document, spreadsheet data/chart, or other format) a summary of the various perspectives and ramifications surrounding an ethical issue related to **intellectual property** rights. Develop and strengthen claim(s) and counterclaim(s) about the issue, citing supportive evidence. Potential issues include **copyright infringement, piracy, plagiarism, art licensing, creative commons, and the state/federal laws** that govern them.

6. Desktop Publishing

- 6.1 Document Formatting: **Apply** appropriate **formatting** to documents, such as setting margins, line spacing, font styles, font size, and alignment, to ensure **readability and visual appeal**.
- 6.2 Layout and Design: Utilize **design principles** such as contrast, balance, and hierarchy, to create **visually appealing layouts** for **print and digital media**, including flyers, posters, and newsletters. Create well-**organized and balanced layouts** for their documents,

including using headings, subheadings, and paragraphs effectively, incorporating images and graphics appropriately, and maintaining consistency in design elements throughout the document.

- 6.3 Image and Graphic Editing: Use basic **image and graphic editing tools**, such as resizing, cropping, and adjusting contrast and brightness, to enhance visual elements in documents and create custom graphics. **Select and insert** relevant images and graphics into their documents, ensuring appropriate **size, resolution, and alignment**, and **understanding copyright rules and guidelines** for using images.
- 6.4 Typography: Select and use appropriate **fonts, font sizes, and font styles** to create visually **appealing and readable** text for different types of documents, such as brochures, invitations, and reports.
- 6.5 Text Editing and Proofreading: Demonstrate proficiency in **editing and proofreading** their documents for **grammar, spelling, and punctuation errors**, ensuring clear and concise writing.

Implementation Notes

*Marked areas to be taught in a single grade level semester course.

Standards Alignment Notes

*References to other standards include:

- P21: Partnership for 21st Century Skills [Framework for 21st Century Learning](#)
 - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.