

Directions for Interpreting the Minimum Required Content

1. **CONTENT STANDARDS** are statements that define what students should know and be able to do at the conclusion of a course or grade. Content standards in this document contain minimum required content. The order in which standards are listed within a course or grade is not intended to convey a sequence for instruction. Each content standard completes the phrase “*Students will.*”

Students will:

Critique digital content for validity, accuracy, bias, currency, and relevance.

(Computer Applications – Content Standard 11)

2. **BULLETS** denote content that is related to the standards and required for instruction. Bulleted content is listed under a standard and identifies additional minimum required content.

Students will:

Identify common hardware and software problems..

- Determining basic troubleshooting strategies to correct hardware and software problems

(Third-Fifth Grade – Content Standard 3)

3. **EXAMPLES** clarify certain components of content standards or bullets. They are illustrative but not exhaustive.

Students will:

Describe advances in technology and the effects of each on the workplace and society.

Examples: agriculture, manufacturing, medicine, warfare, transportation, communication, education

(Sixth-Eighth Grade – Content Standard 10)

Ninth – Twelfth Grade Overview

Students in Grades 9-12 experience significant growth and development as they assume more complex responsibilities such as working and making career choices. They are continuing to develop unique personalities and are making important life decisions. High school students are strengthening and practicing leadership and interpersonal communication skills in the school and community that facilitate entrance into adulthood. They continue to experience physical and emotional changes as well as seek opportunities for realizing independence and individuality.

Grades 9-12 students have broadened their perspective regarding the importance of existing and developing technologies and have an understanding of the scope of technology in today's world. As students progress through the high school years, they are able to address a variety of problems on a variety of topics in a logical manner. Technology offers students an efficient means by which many types of problems may be solved.

Because of cultural and ideological diversity in a technologically-advanced global society, many students have opportunities to interact with others whose backgrounds are different from their own. As the use of technology brings humankind closer together, concepts and skills addressed in the Computer Applications course will assist students in developing skills necessary for becoming productive adults.

The Computer Applications course is designed to provide students with technology fluency appropriate for the twenty-first century. This fluency includes the knowledge of current technology systems as well as the skills and attitudes necessary to adopt new technologies and systems as they emerge. Additional components of the course equip students with the ability to conduct research and solve problems; demonstrate creative thinking and develop innovative products; practice safe, ethical, and legal use of technology systems; and use technology and information to communicate and collaborate at all levels from interpersonal to global.

The content standards in this course include hands-on, practical pursuits that extend beyond the computer classroom or laboratory. Course content is integrated into other curricular areas to allow students to reinforce and expand technology competencies. As students become proficient users of computers and other technologies in the classroom, the benefits of using these tools for researching, analyzing, and synthesizing information beyond the classroom become evident. Technology-fluent students realize that technology tools and resources enhance not only educational endeavors but also personal and professional success as well.

Computer Applications

Technology Operations and Concepts

Student will:

1. Explain data encryption procedures.
2. Diagnose hardware and software problems.
Examples: viruses, error messages
 - Applying strategies to correct malfunctioning hardware and software
 - Performing routine hardware maintenance
 - Describing the importance of antivirus and security software
3. Demonstrate advanced technology skills, including compressing, converting, importing, exporting, and backing up files..
 - Transferring data among applications
 - Demonstrating digital file transfer
Examples: attaching, uploading, downloading
4. Utilize advanced features of word processing software, including outlining, tracking changes, hyperlinking, and mail merging.
5. Utilize advanced features of spreadsheet software, including creating charts and graphs, sorting and filtering data, creating formulas, and applying functions.
6. Utilize advanced features of multimedia software, including image, video and, audio editing.
7. Utilize advanced features of database software, including sorting, filtering, querying, merging data, and creating reports.
8. Practice safe uses of social networking and electronic communication.
 - Recognizing dangers of online predators
 - Protecting personal information online
Example: recognizing risk of identity theft

Digital Citizenship

9. Practice ethical and legal use of technology systems and digital content.
 - Explaining consequences of illegal and unethical use of technology systems and digital content
Examples: cyberbullying, plagiarism
 - Interpreting copyright laws and policies with regard to ownership and use of digital content
 - Citing sources of digital content using a style manual
Examples: Modern Language Association (MLA), American Psychological Association (APA)

10. Analyze capabilities and limitations of current and emerging technologies.
 - Assessing effects of technology on culture, economics, politics, and the environment
 - Comparing capabilities of various technologies to address personal, social, lifelong learning, and career needs

Research and Information Fluency

11. Critique digital content for validity, accuracy, bias, currency, and relevance.

Communication and Collaboration

12. Use digital tools to publish curriculum-related content.
Examples: Web page authoring software, coding software, wikis, blogs, podcasts
13. Demonstrate collaborative skills using curriculum-related content in digital environments.
Examples: completing assignments online, interacting with experts and peers in a structured online learning environment

Critical Thinking, Problem Solving, and Decision Making

14. Use digital tools to defend solutions to authentic problems.
Example: disaggregating data electronically

Creativity and Innovation

15. Forecast technology innovations based on trends.
16. Create a product that integrates information from multiple software applications.
Example: pasting spreadsheet-generated charts into a presentation
17. Create an interactive digital product using programming logic.
Examples: products—digital games, interactive learning tools
programming logic—if-then statements, authoring software