

# Technology Content Standards

Grade Level 10-12th - these are the core standards met with the completion.

**Competency Goal 1.** *Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity. (ISTE NETS-S standards alignment)*

## *Basic Operations*

- 1.1 Identify the platform, version, properties, function, and interoperability of computing devices including a wide range of devices that compute and/or manage digital media. **(3c,6a)**
- 1.2 Use online help and other support to learn about features of hardware and software, as well as to assess and resolve problems. **(6b,6c, 3a,3c)**
- 1.3 Describe process to install and uninstall software; compress and expand files. **(6a,6c)**
- 1.4 Explain effective backup and recovery strategies. **(6a,6b,6c)**
- 1.5 Explain criteria for evaluating hardware and software appropriate for a given task including open source software (e.g., features, versions, capacity). **(6a,6b,6d, 4a-d)**
- 1.6 Demonstrate keyboarding techniques, including the use of keyboard shortcuts, to complete assignments efficiently and accurately. (For students with disabilities, demonstrate alternate input techniques as appropriate.) Business standard is 50wpm **(6b,6d)**
- 1.7 Identify and assess the capabilities and limitations of emerging technologies. **(1a,1c,1d,2a,3a,3d,4a,4c,4d,6a-d)**
- 1.8 Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials. **(1b,2b,3c,6b)**
- 1.9 Use advanced edit features, track changes, insert comments and collaborate **(2a-d,4c,4d,6d)**
- 1.10 Identify the use of word processing and desktop publishing skills in various careers. **(1d,5c)**

Example #1 MLA formatted essay

Example #2 Business letter and flyer design project

## *Database*

- 1.11 Explain the importance of designing the structure of a database to meet its intended goals. **(4a-d,6b)**
- 1.12 Duplicate the structure of a database without data. **(4a-d,6b)**
- 1.13 Save database files in various formats. **(4a-d,6b)**
- 1.14 Use database features to create mailing labels, form letters, and perform mail merges including the use of advanced search and sorting features to create reports and analyze data **(3a,3b, 3d,4a-d,6b)**
- 1.15 Identify the use of database skills in various careers. **(1d,4a-d,5c,6b)**

Example #1 Catalog and mail merge of data

Example #2 Event management

## *Spreadsheets*

- 1.16 Define and use functions of a spreadsheet application (e.g., sort, filter, find). **(1c,6b,4c)**
- 1.17 Enter formulas and functions; use the auto-fill feature in a spreadsheet application. **(1c,6b,4c)**
- 1.18 Explain and use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets). **(1c,6b,4c)**
- 1.19 Differentiate between formulas with absolute and relative cell references. **(1c,6b,4c)**

- 1.20 Use multiple sheets within a workbook **(1c,6b,4c)**
- 1.21 Import and export data between spreadsheets and other applications. **(1c,6b,4c)**
- 1.22 Explain how various formatting options are used to convey information in charts or graphs. **(1b,2b,3c,6b)**
- 1.23 Identify the use of spreadsheet skills in various careers. **(1d,5c)**

Example#1 Budget creation, data analysis and reports

Example#2 Collecting and reporting data in a science lab

### *Internet, Networking, and Online Communications*

- 1.24 Use search engines and online directories. Explain the differences among various search engines and how they rank results. **(1a,3a,4a,4c)**
- 1.25 Explain and demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators). **(1a,3a,4a,4c)**
- 1.26 Describe good practices for password protection and authentication. **(5a)**
- 1.27 Digital literacy -Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including web sites. **(3b,5a)**

Example #1 Research for Social Studies current events projects

Example #2 Make your own basic web page using HTML.

### *Multimedia*

- 1.28 Identify technology tools (e.g., authoring tools) that can be used to create a multimedia product. **(1a,1b,2a,2b)**
- 1.29 Use a variety of applications to plan, create, and edit multimedia products (e.g., slide presentations, videos, animations, podcasts). **(1a,1b,2a,2b)**
- 1.30 Link information residing in different applications (e.g., linking a chart in a word-processing document to the spreadsheet where it was created). **(3b,4c)**

Example #1 My life power point presentation project

Example #2 Basic video production project

### *Web Authoring*

- 1.31 Distinguish between effective and ineffective web site designs; explain the reasons. **(1a-d,2b,2d)**
- 1.32 Explain terminology related to web page authoring (e.g., HTML, URL, links, browsers, plug-ins, web servers). **(6a)**
- 1.33 Use HTML or web-authoring tools to create, edit, and publish well organized web sites with effective navigation. **(1a,1b,2a,2b,2d)**
- 1.34 Explain basic practices that contribute to a web site's accessibility to people with disabilities (e.g., using alternative text, captioning, consistent structure). **(2b-d)**
- 1.35 Explain how to test web files for quality assurance. **(4c,6c)**
- 1.36 Identify career options in web design, development, and management. **(1d,5c)**

Example #1 Make your own webpage with basic HTML.

Example #2 Career Plan research careers in web design.

**Competency Goal 2** *Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society. (ISTE NETS-S standards alignment)*

### *Ethics*

- 2.1 Demonstrate compliance with the school's Acceptable Use Policy.
- 2.2 Explain issues related to the responsible use of technology (e.g., privacy, security). **(5a,3c)**
- 2.3 Explain laws restricting the use of copyrighted materials. **(5a,3c)**
- 2.4 Identify examples of plagiarism, and discuss the possible consequences of plagiarizing the work of others. **(5a,3c)**

- 2.5 Write correct in-text citations and reference lists for text and images gathered from electronic sources. **(5a,3b,3c,6b)**
- 2.6 Give examples of the appropriate and responsible use of communication tools (e.g., chats, instant messaging, blogs, wikis). **(5a)**
- 2.7 Discuss misuse of technology for personal and commercial reasons (e.g., software piracy, unauthorized file sharing/downloading, virus spreading, and hacking); explain possible consequences. **(5a,5c,5b,5d)**

### *Society*

- 2.8 Design and implement a personal learning plan that includes the use of technology to support lifelong learning goals. **(1d,5c)**
- 2.9 Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including Web sites.**(3b,5a)**
- 2.10 Analyze the values and points of view that are presented in media messages.**(2c,3b)**
- 2.11 Describe devices, applications, and operating system features that offer accessibility for people with disabilities.**(2c,6a,6b,6d)**

### *Health & Safety*

- 2.12 Evaluate school and work environments in terms of ergonomic practices. **(1d,5c)**
- 2.13 Describe and use safe and appropriate practices when participating in online communities (e.g., discussion groups, blogs, social networking sites). **(5a-d)**
- 2.14 Explain and use practices to protect one's personal safety online (e.g., not sharing personal information with strangers, being alert for online predators, reporting suspicious activities). **(5a-d)**

**Competency Goal 3. *Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation. (ISTE NETS-S standards alignment)***

### *Creativity and Innovation*

- 3.1 Utilize the basic design elements necessary to produce effective print and multimedia projects. **(1b,2b,6b)**
- 3.2 Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. **(4a-d)**

Example #1 Postcard and logo design project

Example #2 Design brochure project

### *Communication*

- 3.3 Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters), citing sources. **(2b,3b,3c,6b)**
- 3.4 Demonstrate how the use of various techniques and effects (e.g., editing, music, color, rhetorical devices) can be used to convey meaning in media.**(1a,2b,6b)**
- 3.5 Use online communication tools to collaborate with peers, community members, and field experts as appropriate (e.g., bulletin boards, discussion forums, web conferencing).**(2a-d)**

Example #1 Newsletters and Brochures

Example #2 Skype class conference and guest speaker, ePals

Adapted from the following sources;

[www.doe.mass.edu/edtech/standards/itstand.pdf](http://www.doe.mass.edu/edtech/standards/itstand.pdf)

The ISTE NETS and Performance Indicators for Students