# Mississippi Business and Technology Framework



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**Introduction**

The Mississippi Business and Technology Framework was last revised in 2004. In 2012, a new Business and Technology Framework was adopted for use in Career and Technical Education (CTE) centers across the state, with input from content experts and aligned to business industry standards.  In an effort to closely align instruction for students who are progressing toward college- and career-readiness, the *2014 Mississippi Business and Technology Framework* includes identical content of eighteen (18) selected courses from the 2012 Career Technical Education framework.

**Mission**

The Mississippi Department of Education is dedicated to student success including the improvement of student achievement in business and technology in order to produce citizens who are capable of making complex decisions, solving complex problems, and communicating fluently in a technological society. Through the utilization of the *2014 Mississippi Business and Technology Framework*, teachers will challenge their students to think more deeply about the content, thus improving student understanding.  This document is based on premises that all children can learn, and that high expectations produce high achievement.

**Purpose**

The primary purpose of the *2014 Mississippi Business and Technology Framework* is to provide a basis for curriculum development for secondary teachers. The framework provides an outline of what students should learn. The *2014 Mississippi Business and Technology Framework* replaces the *2004 Mississippi Business and Technology Framework*.  The content of the framework is focused on the concepts that students will utilize as they pursue a career or continue their education.

# Mississippi Business and Technology Framework Revision Committee

The Mississippi Department of Education gratefully acknowledges the hard work and dedication of the following educators for developing a quality document to improve business and technology education for our students.

| | |
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| Scott Maynard | Greater Starkville Development Partnership |
| Judy Stevenson | Cleveland Career Development & Technology Center, Cleveland School District |
| Bethany Walker Lucas | Philadelphia / Neshoba County Career Technical Center, East Central Community College |

# Mississippi Business and Technology Courses

| Course Title | Carnegie Credit |
| --- | --- |
| Business Law | ½ |
| Personal Finance | ½ |
| Information and Communication Technology I | 0 |
| Information and Communication Technology II | 1 |
| Graphic Design I | ½ |
| Graphic Design II | ½ |
| Entrepreneurship | 1 |
| Business Finance | 1 |
| Accounting Fundamentals | 1 |
| Business Fundamentals I | 1 |
| Management Fundamentals | 1 |
| Management Essentials | 1 |
| International Business | 1 |
| Marketing Essentials | 1 |
| Sales and Distribution | 1 |
| Web Design and Media Rich Content | 1 |
| Introduction to Information Technology | 1 |
| Technology Foundations | 1 |

**NETS-S Profiles for Technology (ICT) Literate Students**

The National Educational Technology Standards for Students (NETS-S) include learning activities and outcomes for students who are considered technology literate. Profiles for students are broken into grade bands – Grades PreK-2, Grades 3-5, Grades 6-8, and Grades 9-12.  Technology is a tool for learning and increasing productivity. The profile benchmarks included in the appendix to this framework are designed to enhance learning within and across all curricula. Although most students are required to take business and technology courses in grades 7-12, the activities for students in grades K-12 are intended to be integrated across all subject areas.

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■ ADVANCING DIGITAL AGE LEARNING

## 1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

a. Apply existing knowledge to generate new ideas, products, or processes
b. Create original works as a means of personal or group expression
c. Use models and simulations to explore complex systems and issues
d. Identify trends and forecast possibilities

## 2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
c. Develop cultural understanding and global awareness by engaging with learners of other cultures
d. Contribute to project teams to produce original works or solve problems

## 3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information.

a. Plan strategies to guide inquiry
b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
d. Process data and report results

## 4. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

a. Identify and define authentic problems and significant questions for investigation
b. Plan and manage activities to develop a solution or complete a project
c. Collect and analyze data to identify solutions and/or make informed decisions
d. Use multiple processes and diverse perspectives to explore alternative solutions

## 5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology

b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity

c. Demonstrate personal responsibility for lifelong learning

d. Exhibit leadership for digital citizenship

## 6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems

b. Select and use applications effectively and productively

c. Troubleshoot systems and applications

d. Transfer current knowledge to learning of new technologies

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# Profiles

## for Technology (ICT) Literate Students

A major component of the NETS Project is the development of a general set of profiles describing technology (ICT) literate students at key developmental points in their precollege education. These profiles are based on ISTE's core belief that all students must have regular opportunities to use technology to develop skills that encourage personal productivity, creativity, critical thinking, and collaboration in the classroom and in daily life. Coupled with the standards, the profiles provide a set of examples for preparing students to be lifelong learners and contributing members of a global society.

The profiles highlight a few important types of learning activities in which students might engage as the new NETS•S are implemented. These examples are provided in an effort to bring the standards to life and demonstrate the variety of activities possible. Space limitations and the realities of the constantly evolving learning and technology landscapes make it impossible to provide a comprehensive collection of examples in this document, and consequently, students and teachers should not feel constrained by this resource. Similarly, because this represents only a sampling of illuminating possibilities, the profiles cannot be considered a comprehensive curriculum, or even a minimally adequate one, for achieving mastery of the rich revised National Educational Technology Standards for Students. Educators are encouraged to stay connected to the ISTE NETS Refresh Project and contribute their best examples to expand this resource.

The profiles are divided into the following four grade ranges. Because grade-level designations vary in different countries, age ranges are also provided.

- ▶ Grades PK–2 (ages 4–8)

- ▶ Grades 3–5 (ages 8–11)

- ▶ Grades 6–8 (ages 11–14)

- ▶ Grades 9–12 (ages 14–18)

It's important to remember that the profiles are *indicators of achievement at certain stages* in primary, elementary, and secondary education, and that success in meeting the indicators is predicated on students having regular access to a variety of technology tools. Skills are introduced and reinforced over multiple grade levels before mastery is achieved. If access is an issue, profile indicators will need to be adapted to fit local needs.

The standards and profiles are based on input and feedback provided by instructional technology experts and educators from around the world, including classroom teachers, administrators, teacher educators, and curriculum specialists. Students were also given opportunities to provide input and feedback. In addition, these refreshed documents reflect information collected from professional literature.

# Profile

## for Technology (ICT) Literate Students
## Grades PK–2 (Ages 4–8)

The following experiences with technology and digital resources are examples of learning activities in which students might engage during PK–Grade 2 (ages 4–8):

1. Illustrate and communicate original ideas and stories using digital tools and media-rich resources. (1, 2)

2. Identify, research, and collect data on an environmental issue using digital resources and propose a developmentally appropriate solution. (1, 3, 4)

3. Engage in learning activities with learners from multiple cultures through e-mail and other electronic means. (2, 6)

4. In a collaborative work group, use a variety of technologies to produce a digital presentation or product in a curriculum area. (1, 2, 6)

5. Find and evaluate information related to a current or historical person or event using digital resources. (3)

6. Use simulations and graphical organizers to explore and depict patterns of growth such as the life cycles of plants and animals. (1, 3, 4)

7. Demonstrate the safe and cooperative use of technology. (5)

8. Independently apply digital tools and resources to address a variety of tasks and problems. (4, 6)

9. Communicate about technology using developmentally appropriate and accurate terminology. (6)

10. Demonstrate the ability to navigate in virtual environments such as electronic books, simulation software, and Web sites. (6)

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**The numbers in parentheses after each item identify the standards (1–6) most closely linked to the activity described. Each activity may relate to one indicator, to multiple indicators, or to the overall standards referenced.**

**The categories are:**

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

# Profile

## for Technology (ICT) Literate Students
## Grades 3–5 (Ages 8–11)

The following experiences with technology and digital resources are examples of learning activities in which students might engage during Grades 3–5 (ages 8–11):

1.  Produce a media-rich digital story about a significant local event based on first-person interviews. (1, 2, 3, 4)

2.  Use digital-imaging technology to modify or create works of art for use in a digital presentation. (1, 2, 6)

3.  Recognize bias in digital resources while researching an environmental issue with guidance from the teacher. (3, 4)

4.  Select and apply digital tools to collect, organize, and analyze data to evaluate theories or test hypotheses. (3, 4, 6)

5.  Identify and investigate a global issue and generate possible solutions using digital tools and resources. (3, 4)

6.  Conduct science experiments using digital instruments and measurement devices. (4, 6)

7.  Conceptualize, guide, and manage individual or group learning projects using digital planning tools with teacher support. (4, 6)

8.  Practice injury prevention by applying a variety of ergonomic strategies when using technology. (5)

9.  Debate the effect of existing and emerging technologies on individuals, society, and the global community. (5, 6)

10. Apply previous knowledge of digital technology operations to analyze and solve current hardware and software problems. (4, 6)

The numbers in parentheses after each item identify the standards (1–6) most closely linked to the activity described. Each activity may relate to one indicator, to multiple indicators, or to the overall standards referenced.

The categories are:

1.  Creativity and Innovation
2.  Communication and Collaboration
3.  Research and Information Fluency
4.  Critical Thinking, Problem Solving, and Decision Making
5.  Digital Citizenship
6.  Technology Operations and Concepts

# Profile

## for Technology (ICT) Literate Students
## Grades 6–8 (Ages 11–14)

The following experiences with technology and digital resources are examples of learning activities in which students might engage during Grades 6–8 (ages 11–14):

1. Describe and illustrate a content-related concept or process using a model, simulation, or concept-mapping software. (1, 2)

2. Create original animations or videos documenting school, community, or local events. (1, 2, 6)

3. Gather data, examine patterns, and apply information for decision making using digital tools and resources. (1, 4)

4. Participate in a cooperative learning project in an online learning community. (2)

5. Evaluate digital resources to determine the credibility of the author and publisher and the timeliness and accuracy of the content. (3)

6. Employ data-collection technology such as probes, handheld devices, and geographic mapping systems to gather, view, analyze, and report results for content-related problems. (3, 4, 6)

7. Select and use the appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. (3, 4, 6)

8. Use collaborative electronic authoring tools to explore common curriculum content from multicultural perspectives with other learners. (2, 3, 4, 5)

9. Integrate a variety of file types to create and illustrate a document or presentation. (1, 6)

10. Independently develop and apply strategies for identifying and solving routine hardware and software problems. (4, 6)

The numbers in parentheses after each item identify the standards (1–6) most closely linked to the activity described. Each activity may relate to one indicator, to multiple indicators, or to the overall standards referenced.

The categories are:

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

# Profile

## for Technology (ICT) Literate Students
## Grades 9–12 (Ages 14–18)

The following experiences with technology and digital resources are examples of learning activities in which students might engage during Grades 9–12 (ages 14–18):

1. Design, develop, and test a digital learning game to demonstrate knowledge and skills related to curriculum content. (1, 4)

2. Create and publish an online art gallery with examples and commentary that demonstrate an understanding of different historical periods, cultures, and countries. (1, 2)

3. Select digital tools or resources to use for a real-world task and justify the selection based on their efficiency and effectiveness. (3, 6)

4. Employ curriculum-specific simulations to practice critical-thinking processes. (1, 4)

5. Identify a complex global issue, develop a systematic plan of investigation, and present innovative sustainable solutions. (1, 2, 3, 4)

6. Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs. (4, 5, 6)

7. Design a Web site that meets accessibility requirements. (1, 5)

8. Model legal and ethical behaviors when using information and technology by properly selecting, acquiring, and citing resources. (3, 5)

9. Create media-rich presentations for other students on the appropriate and ethical use of digital tools and resources. (1, 5)

10. Configure and troubleshoot hardware, software, and network systems to optimize their use for learning and productivity. (4, 6)

The numbers in parentheses after each item identify the standards (1–6) most closely linked to the activity described. Each activity may relate to one indicator, to multiple indicators, or to the overall standards referenced.

The categories are:

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts