

## **Business and Computer Science**

**PROGRAM CONCENTRATION:** Middle School Business and Computer Science

**COURSE TITLE:** Middle School Business and Computer Science, Grade 6

### **COURSE DESCRIPTION:**

Using project-based instruction, students are introduced to the principles of business in the 21st century while refreshing their keyboarding skills. This course should also help students to use computers effectively in their lives, thus providing a connection of computer science and business careers.

The goal of this course is to provide all middle school students with an introduction to the principles of computer science, basic keyboarding skills, Internet safety and usage, and computer applications. Students will explore how personality traits and personal values align with career choices and will develop a career plan. Personal, professional, and ethical standards of behavior for the workplace will be examined and reinforced in the classroom.

Competencies for the co-curricular student organization Future Business Leaders of America (FBLA) are integral components of the performance standards. FBLA activities should be incorporated throughout instructional strategies developed for the course.

### **COMPUTER FUNDAMENTALS:**

Students will be introduced to the basic computer components and the safe utilization of computer equipment.

#### **MSBCS-BCSI-1: Students will identify computer system components.**

- a) Identify and define the key functional components (input devices, output devices, processor, operating system, software applications, memory, storage, etc.)
- b) Understand the terms and units that are used to describe major hardware components (RAM, ROM, GHz, MHz, GB, MB, CD, DVD, RW, etc.)
- c) Explain operating system software, application software, and utility software, citing examples of each.

#### **MSBCS-BCSI-2: Students will identify and demonstrate computer maintenance and safety.**

- a) Explain basic file management.
- b) Create a folder/directory.
- c) Move, copy, delete, and rename files and folders.
- d) Follow safety procedures in the use of computers.

**ACADEMIC STANDARDS:**

*ELA6LSV1 – The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

*M6P3 – Students will communicate mathematically.*

*M6P4 – Students will make connections among mathematical ideas and to other disciplines.*

*M6P5 – Students will represent mathematics in multiple ways.*

*S6CS2 – Students will use standard safety practices for all classroom laboratory and field investigations.*

**NBEA NATIONAL STANDARDS:**

*Standard 1 – Identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems, environments, and utilities.*

*Standard 2 – Describe the information technology components of major business functions and explaining their interrelationships.*

**SAMPLE TASKS:**

- Computer ‘Nuts and Bolts’ Unit
  - Complete graphic organizers on computer hardware and software.
  - Crossword puzzle using terms and definitions. ([www.puzzlemaker.com](http://www.puzzlemaker.com))
  - Word Processor to set up a 3-column chart with Hardware, Function, and I/O/P/S.
  - Students create and manage their personal assignment folders.
  - Create a poster/flyer about safety procedures in the use of computers.

**CAREERS:**

Students will utilize tools available to explore career planning and personal development.

**MSBCS-BCSI-3: Students will develop an individual career plan reflecting their personal traits and values.**

- a) Assess personality traits and interests using an Interest Survey instrument.
- b) Utilize Interest Survey results to match interests with potential careers.
- c) Apply knowledge gained from individual assessment to develop a career plan.

**ACADEMIC STANDARDS:**

*ELA6R2 – The student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA6RC3 – The student acquires new vocabulary in each content area and uses it correctly.*

*ELA6W3 – The student uses research and technology to support writing.*

*ELA6W4 – The student consistently uses the writing process to develop, revise, and evaluate writing.*

*ELA6C1 – The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.*

*ELA6LSV1 – The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

*ELA6LSV2 – The student listens to and views various forms of text and media in order to gather and share information, persuade others, and express and understand ideas. The student will select and critically analyze messages using rubrics as assessment tools.*

**NBEA NATIONAL STANDARDS:**

*Standard 1 – Assess personal skills, abilities, and aptitudes and personal strengths and weaknesses as they career exploration and development.*

*Standard 2 – Utilize career resources to develop a career information database that includes international career opportunities.*

*Standard 3 – Apply knowledge gained from individual assessment to a comprehensive set of goals and an individual career plan.*

*Standard 4 – Develop strategies to make an effective transition from school to career.*

*Standard 5 – Relate the importance of lifelong learning to career success.*

*Standard 6 – Use technology to enhance the effectiveness of communication.*

*Standard 7 – Use a rational decision-making process as it applies to the roles of citizens, workers, and consumers.*

*Standard 8 – Identify various forms of income and analyze factors that affect income as a part of the career decision-making process.*

*Standard 9 – Recognize that entrepreneurs possess unique characteristics and evaluate the degree to which one possesses those characteristics.*

*Standard 10 – Describe positions and career paths in information technology.*

### **SAMPLE TASKS:**

- ‘Your Future’s Calling’ Unit
  - Use online resources to take interest surveys/personality traits inventories. (GCIS, Career Cruising, etc.)
  - Research a chosen career and create a Career t-shirt.
  - Create a presentation or flyer on a chosen career.
  - Write a research report describing the relationship between academic subjects and their chosen career.

### **KEYBOARDING:**

Students will develop and apply keyboarding skills utilizing current technology.

### **MSBCS-BCSI-4: Students will develop keyboarding skills by touch with speed and accuracy.**

- a) Identify home row keys and correct finger placement.
- b) Demonstrate proper keyboarding techniques (posture, position, finger placement, etc.).
- c) Use correct keystroking technique for the alphabetic keys.
- d) Use correct keystroking technique for the number keys.

### **ACADEMIC STANDARDS:**

*ELA6R2 – The student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA6RC3 – The student acquires new vocabulary in each content area and uses it correctly.*

**NBEA NATIONAL STANDARDS:**

*Standard 1 – Use input technologies appropriately to enter and manipulate text and data.*

*Standard 2 – Utilize information and technology tools to conduct business effectively and efficiently.*

**SAMPLE TASKS:**

- Getting in ‘Touch’ with the Keyboard Unit
  - Complete graphic organizers on keyboard layout.
  - Keyboarding Jeopardy.
  - Live Keyboard.
  - Type Bingo Game.
  - Online Keyboarding Games. ([www.gamequarium.com](http://www.gamequarium.com), [www.freetypinggame.net](http://www.freetypinggame.net), Typersharks on yahoo.com)

**INTERNET:**

Students will examine the professional, ethical, and safety issues involved in the efficient use of the Internet.

**MSBCS-BCSI-5: Students will discuss Internet safety and security issues.**

- a) Identify Internet safety and security concerns (Cyber Predators, etc.).
- b) Discuss illegal aspects of software piracy, hacking, and computer viruses.

**MSBCS-BCSI-6: Students will utilize the Internet as a resource.**

- a) Model ethical use of Internet resources (Piracy, Plagiarism, Copyright, etc.).
- b) Access and examine available Web sites on the Internet, using different search engines to find information.
- c) Copy/Save text and images from the Internet, citing references according to copyright laws.

**ACADEMIC STANDARD(S):**

*ELA6R2 – The student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA6RC2 – The student participates in discussions related to curricular learning in all subject areas.*

*ELA6RC3 – The student acquires new vocabulary in each content area and uses it correctly.*

*ELA6W3 – The student uses research and technology to support writing.*

*ELA6W4 – The student consistently uses the writing process to develop, revise, and evaluate writing.*

*ELA6LSV1 – The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

*ELA6LSV2 – The student listens to and views various forms of text and media in order to gather and share information, persuade others, and express and understand ideas. The student will select and critically analyze messages using rubrics as assessment tools.*

*M6D1 – Students will pose questions, collect data, represent and analyze the data, and interpret results.*

*S6CS2 – Students will use standard safety practices for all classroom laboratory and field investigations.*

### **NBEA NATIONAL STANDARDS:**

*Standard 1 – Use technology to enhance the effectiveness of communication.*

*Standard 2 – Assess the impact of information technology on society.*

*Standard 3 – Describe, analyze, develop, and follow policies for managing privacy and ethical issues in organizations and in a technology-based society.*

### **SAMPLE TASKS:**

- Safe Surfing Unit
  - Utilize online Internet Safety activities and worksheets. ([www.isafe.org](http://www.isafe.org), [www.pbskids.org/license](http://www.pbskids.org/license), [www.safekids.org](http://www.safekids.org), [www.safeteens.org](http://www.safeteens.org), [www.tekmom.org](http://www.tekmom.org), etc.)
  - Download graphics for use in computer applications.
  - Search for five website addresses for airlines, food, sports teams, etc.
  - Interview or survey family members about their Internet usage, safety issues, and how it affects their family life.
  - Guest speakers on Internet safety, how computers have changed their jobs, etc.

**21ST CENTURY SKILLS:**

Students will demonstrate employability skills such as working on a team, problem-solving and organizational skills.

**MSBCS-BCSI-7: Students will develop and model employability skills.**

- a) Identify grooming and dress standards in various workplace environments.
- b) Demonstrate employability skills such as teamwork, problem-solving, and organizational skills.
- c) Demonstrate personal work ethics (dependability, punctuality, responsibility, integrity, getting along with others) that are needed to be successful in the workplace.

**ACADEMIC STANDARDS:**

*ELA6R2 – The student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA6RC2 – The student participates in discussions related to curricular learning in all subject areas.*

*ELA6RC3 – The student acquires new vocabulary in each content area and uses it correctly.*

*ELA6W3 – The student uses research and technology to support writing.*

*ELA6W4 – The student consistently uses the writing process to develop, revise, and evaluate writing.*

**NBEA NATIONAL STANDARDS:**

*Standard 1 – Communicate in a clear, courteous, concise, and correct manner on personal and professional levels.*

*Standard 2 – Apply basic social communication skills in personal and professional situations.*

*Standard 3 – Describe, analyze, develop, and follow policies for managing privacy and ethical issues in organizations and in a technology-based society.*

*Standard 4 – Develop personal management skills to function effectively and efficiently in a business environment.*

*Standard 5 – Examine the role of ethics and social responsibility in decision making.*

**SAMPLE TASKS:**

- Perfecting Your Professional Image Unit
  - Rubrics for personal qualities. (punctuality, dependability, integrity, respect, etc.)
  - Interview local businesses about employability skills needed and performance reviews.
  - Guest speaker from the local Chamber of Commerce.

**INTRODUCTION TO COMPUTER APPLICATIONS:**

Students will understand and apply basic skills in word processing, spreadsheet, database, desktop publishing, and multimedia presentation software.

**MSBCS-BCSI-8: Students will utilize word processing software.**

- a) Identify and explain basic word processing terminology (file, open, save, print, copy, paste, toolbar, highlight, font, etc.).
- b) Label the parts of a word processing screen.
- c) Create and save a basic word processing document.
- d) Retrieve, edit, manipulate, and print a document.
- e) Format various business and personal documents.

**SAMPLE TASKS:**

- ‘Word Wrapped’ Unit
  - Complete graphic organizer on terminology
  - Brainstorm, outline, draft, and produce final copy of report related to a career from student’s portfolio
  - Key a letter from copy corrected utilizing proofreading symbols
  - Create a personal business letter requesting a job interview
  - Create a personal business letter to school staff or faculty member
  - Type a business letter formatted correctly with margins, header with letterhead, etc.
  - Type a personal letter with casual format and changing font color, size, and type.

**MSBCS-BCSI-9: Students will develop and apply basic spreadsheet skills.**

- a) Identify and explain basic spreadsheet terminology (cell, column, row, formula, label, function, etc.).
- b) Label the parts of a spreadsheet.
- c) Create and save a basic spreadsheet.
- d) Change column width and row height.
- e) Retrieve, edit, manipulate, and print a spreadsheet.
- f) Format the contents of a cell – change fonts and font sizes, align text, format numbers, and apply borders.
- g) Use the autosum feature.
- h) Create and print a basic chart using spreadsheet data.

**SAMPLE TASKS:**

- Spotlight on Spreadsheets Unit
  - Complete graphic organizer on terminology
  - Key a basic spreadsheet and graph
  - Edit a basic spreadsheet adding rows, columns, functions
  - Create a basic spreadsheet from researched data
  - Choose a product and create a taste test that describes 5 product characteristics. Then chart the results using a spreadsheet.

**MSBCS-BCSI-10: Students will develop and apply basic database skills.**

- a) Identify the purpose of databases.
- b) Acquire efficient research strategies to locate information.
- c) Efficiently retrieve, update, and edit a database.
- d) Utilize a database to create an electronic portfolio.
- e) Learn database terminology.
- f) Understand when database software is an appropriate tool.
- g) Create a basic database from data provided.

**SAMPLE TASKS:**

- Keeping the Record Straight Unit
  - Complete graphic organizer on terminology
  - Create database within group using characteristics chosen by group
  - Create, use, update, and retrieve information from an electronic portfolio
  - Create a form to be filled out by students that includes name, birthday, favorite fast-food company, favorite clothes company, and favorite musical performer. Students will take answered forms and create a database for each student.

**MSBCS-BCSI-11: Students will develop and apply basic desktop publishing skills.**

- a) Identify the purpose and type of documents produced utilizing desktop publishing software.
- b) Understand when desktop publishing software is an appropriate tool.
- c) Demonstrate knowledge of desktop publishing terminology.
- d) Complete basic desktop publishing assignments.

**SAMPLE TASKS:**

- Creative Communications Unit
  - Complete graphic organizer on terminology
  - Create flyer promoting FBLA goal(s) or program
  - Create flyer related to school function, activity, or program
  - Create brochure promoting school/FBLA activity
  - Create greeting card
  - Create web page design
  - Create a letterhead, a business card, and a flyer advertisement for an entrepreneurial venture of their choice.

**MSBCS-BCSI-12: Students will acquire basic knowledge and skills of multimedia/presentation software.**

- a) Identify and explain multimedia/presentation graphics terminology.
- b) Plan and design basic presentations.
- c) Create, save, and print basic presentations.
- d) Apply animation to slides.
- e) Display and explain presentation to peers.
- f) Critique presentations.

**SAMPLE TASKS:**

- Phenomenal Presentations Unit
  - Complete graphic organizer on terminology
  - Complete presentation about themselves (include biography, interests, abilities, short and long-term goal(s), spotlight on career and post-secondary school
  - Complete presentation on career
  - Utilize presentation software for academic project
  - Create an electronic presentation on a topic such as the development of a major manufacturer's product line, school subjects, etc.

**ACADEMIC STANDARDS:**

*ELA6R2 – The student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA6RC2 – The student participates in discussions related to curricular learning in all subject areas.*

*ELA6RC3 – The student acquires new vocabulary in each content area and uses it correctly.*

*ELA6W2 – The student demonstrates competence in a variety of genres.*

*ELA6W3 – The student uses research and technology to support writing.*

*ELA6W4 – The student consistently uses the writing process to develop, revise, and evaluate writing.*

*ELA6C1 – The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.*

*ELA6LSV1 – The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

*ELA6LSV2 – The student listens to and views various forms of text and media in order to gather and share information, persuade others, and express and understand ideas. The student will select and critically analyze messages using rubrics as assessment tools.*

*M6D1 – Students will pose questions, collect data, represent and analyze the data, and interpret results.*

*M6P1 – Students will solve problems (using appropriate technology).*

*M6P3 – Students will communicate mathematically.*

*M6P4 – Students will make connections among mathematical ideas and to other disciplines.*

*M6P5 – Students will represent mathematics in multiple ways.*

*S6CS2 – Students will use standard safety practices for all classroom laboratory and field investigations.*

**NBEA NATIONAL STANDARDS:**

*Standard 1 – Use technology to enhance the effectiveness of communication.*

*Standard 2 – Apply basic mathematical operations to solve problems.*

*Standard 3 – Use algebraic operations to solve problems.*

*Standard 4 – Analyze and interpret data using common statistical procedures.*

*Standard 5 – Use mathematical procedures to analyze and solve business problems.*

*Standard 6 – Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software’s installation and use.*

*Standard 7 – Use input technologies appropriately to enter and manipulate text and data.*

*Standard 8 – Gather, evaluate, use, and cite information from information technology sources.*

*Standard 9 – Database Management Systems: Use, plan, develop, and maintain database management systems.*

*Standard 10 – Utilize information and technology tools to conduct business effectively and efficiently.*

**READING STANDARD COMMENT:**

After the elementary years, students are seriously engaged in reading for learning. This process sweeps across all disciplinary domains, extending even to the area of personal learning. Students encounter a variety of informational as well as fictional texts, and they experience text in all genres and modes of discourse. In the study of various disciplines of learning (language arts, mathematics, science, social studies), students must learn through reading the communities of discourse of each of those disciplines. Each subject has its own specific vocabulary, and for students to excel in all subjects, they must learn the specific vocabulary of those subject areas *in context*.

Beginning with the middle grade years, students begin to self-select reading materials based on personal interests established through classroom learning. Students become curious about science, mathematics, history, and literature as they form contexts for those subjects related to their personal and classroom experiences. As students explore academic areas through reading, they develop favorite subjects and become confident in their verbal discourse about those subjects.

Reading across curriculum content develops both academic and personal interests in students. As students read, they develop both content and contextual vocabulary. They also build

good habits for reading, researching, and learning. The Reading Across the Curriculum standard focuses on the academic and personal skills students acquire as they read in all areas of learning.

**CTAEMRC-1: Students will enhance reading in all curriculum areas by:**

- a. Reading in all curriculum areas.
  - Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.
  - Read both informational and fictional texts in a variety of genres and modes of discourse.
  - Read technical texts related to various subject areas.
- b. Discussing books.
  - Discuss messages and themes from books in all subject areas.
  - Respond to a variety of texts in multiple modes of discourse.
  - Relate messages and themes from one subject area to messages and themes in another area.
  - Evaluate the merit of texts in every subject discipline.
  - Examine author's purpose in writing.
  - Recognize the features of disciplinary texts.
- c. Building vocabulary knowledge.
  - Demonstrate an understanding of contextual vocabulary in various subjects.
  - Use content vocabulary in writing and speaking.
  - Explore understanding of new words found in subject area texts.
- d. Establishing context.
  - Explore life experiences related to subject area content.
  - Discuss in both writing and speaking how certain words are subject area related.
  - Determine strategies for finding content and contextual meaning for unknown words.

**WRITING:**

The student writes clear, coherent text. The writing shows consideration of the audience and purpose. The student progresses through the stages of the writing process (e.g., prewriting, drafting, revising, and editing successive versions).

**CTAEW-1: The student demonstrates competence in a variety of genres.**

The student produces technical writing (business correspondence: memoranda, emails, letters of inquiry, letters of complaint, instructions and procedures, lab reports, slide presentations) that:

- a) Creates or follows an organizing structure appropriate to purpose, audience, and context.
- b) Excludes extraneous and inappropriate information.
- c) Follows an organizational pattern appropriate to the type of composition.
- d) Applies rules of Standard English.

**CTAEW-2: The student uses research and technology to support writing.**

The student:

- a) Identifies topics, asks and evaluates questions, and develops ideas leading to inquiry, investigation, and research.
- b) Uses organizational features of electronic text (e.g., bulletin boards, databases, keyword searches, e-mail addresses) to locate relevant information.
- c) Includes researched information in different types of products (e.g., compositions, multimedia presentations, graphic organizers, projects, etc.).
- d) Uses appropriate structures to ensure coherence (e.g., transition elements).
- e) Supports statements and claims with anecdotes, descriptions, facts and statistics, and specific examples.
- f) Gives credit for both quoted and paraphrased information in a bibliography by using a consistent and sanctioned format and methodology for citations.

**CTAEW-3: The student consistently uses the writing process to develop, revise, and evaluate writing.**

The student:

- a) Plans and drafts independently and resourcefully.
- b) Uses strategies of note taking, outlining, and summarizing to impose structure on composition drafts.
- c) Edits writing to improve word choice after checking the precision of the vocabulary.

**ENTREPRENEURSHIP:**

**MKT-EN-1: Understands concepts and processes associated with successful entrepreneurial performance.**

- a) Define entrepreneurship.
- b) Identify and analyze characteristics of a successful entrepreneur.
- c) Identify the reasons for planning in entrepreneurial businesses.
- d) Discuss the entrepreneurial discovery processes.
- e) Assess global trends and opportunities.
- f) Determine opportunities for business creation.
- g) Generate ideas for business.
- h) Determine feasibility of ideas.
- i) Determine the major reasons for business failure.

**ACADEMIC STANDARDS:**

*ELA8W1 – The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals a satisfying closure.*

*ELA8W3 – The student uses research and technology to support writing.*

*SSEF6 – The student will explain how productivity, economic growth and future standards of living are influenced by investment in factories, machinery, new technology and the health, education and training of people.*

*SSEIN1 – The student will explain why individuals, businesses and governments trade goods and services.*

**MKT-EN-2: Explain the fundamental concepts of business ownership.**

- a) Determine the relationship of competition to our private, free enterprise system.
- b) Explain the effects of competition on buyers and sellers.
- c) Identify the common types of business ownership.
- d) Compare and contrast the advantages and disadvantages of each type of ownership.
- e) Explain relevant government regulations relating to the operation of a business.
- f) Discuss the types of risks that businesses encounter.
- g) Explain how businesses deal with the various types of risks.
- h) Identify the market segment for the business.
- i) Formulate a marketing mix designed to reach a specific market segment.
- j) Utilize the marketing functions to determine the competitive advantage of the proposed business.

## **ACADEMIC STANDARDS:**

*ELA8W1 – The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals a satisfying closure.*

*ELA8W3 – The student uses research and technology to support writing.*

*SSEF5 – The student will describe the roles of government in a market economy.*

## **CTAE FOUNDATION SKILLS:**

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U.S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

**CTAE-FS-1 Technical Skills:** Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

**CTAE-FS-2 Academic Foundations:** Learners achieve state academic standards at or above grade level.

**CTAE-FS-3 Communications:** Learners use various communication skills in expressing and interpreting information.

**CTAE-FS-4 Problem Solving and Critical Thinking:** Learners define and solve problems, and use problem-solving and improvement methods and tools.

**CTAE-FS-5 Information Technology Applications:** Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

**CTAE-FS-6 Systems:** Learners understand a variety of organizational structures and functions.

**CTAE-FS-7 Safety, Health and Environment:** Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

**CTAE-FS-8 Leadership and Teamwork:** Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

**CTAE-FS-9 Ethics and Legal Responsibilities:** Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

**CTAE-FS-10 Career Development:** Learners plan and manage academic-career plans and employment relations.

**CTAE-FS-11 Entrepreneurship:** Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.