

Title 7: Education K-12

Part 25

## **2004 MISSISSIPPI BUSINESS AND TECHNOLOGY FRAMEWORK**



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## TABLE OF CONTENTS

Introduction to Mississippi Business and Technology Framework	1
Benchmarks	5
Elementary Business and Technology Education	8
Middle Grades Business and Technology Education	13
Secondary Business and Technology Education	16
Accounting I	17
Accounting II	27
Advanced Software Topics	38
Business Law	40
Certified Advanced Networking (CAN) I-IV	43
Communications in Business	48
Computation in Business	51
Computer Applications	54
Computer Assisted Drafting (CAD), Principles of	57
Computer Engineering I	59
Computer Engineering II	62
Desktop Publishing I	65
Desktop Publishing II	69
Digital Media Design	72
Digital Photography	76
Digital Video	79
Entrepreneurship	83
Financial Technology	86
Global Marketing	90
Graphic Design I	97
Graphic Design II	100
Home Technology Integrator (HTI)	103
Information Processing	106
Innovative Applications Using Technology	110
International Business and Public Policy	112
Keyboarding	117
Multimedia Projects	121
Network Essentials	123
Personal Finance	127
Programming I	
Beginning	132
Introductory	136
Foundations	140
Programming II	144
Research Using Technology's Information Tools	147
Telecommunications	150

## TABLE OF CONTENTS (CONTINUED)

Web Page Design I	155
Web Page Design II	159
Word Processing	163
Technology Connections	167
Resources	180
Sample Proficiency Test in Keyboarding	187
Glossary	188

# INTRODUCTION TO MISSISSIPPI BUSINESS AND TECHNOLOGY FRAMEWORK

## MISSION STATEMENT

(The following statement is an excerpt from the National Standards for Business Education (NBEA) and is adopted as the mission for business and technology education.)

NBEA's mission is simple: to ensure that students and adults are afforded equal access to fundamental business knowledge and skills and, therefore, an equal opportunity for success in life (National Standards for Business Education, 2001, page vii).

## OVERARCHING GOALS OF BUSINESS AND TECHNOLOGY EDUCATION

(The following statement is an excerpt from the National Standards for Business Education and is adopted as the overarching goals for business and technology education.)

All students should be able to do the following:

- Function as economically-literate citizens in domestic and international venues.
- Develop sensitivity to personal, societal, and governmental responsibility in the economic system.
- Understand how businesses operate.
- Demonstrate the interpersonal, teamwork, and leadership skills needed to function in diverse business settings.
- Develop an awareness of career opportunities and the lifelong-learning skills that will enable students to become employable in a variety of business careers.
- Select and apply technology tools for making personal and business decisions.
- Communicate effectively as writers, listeners, and speakers, in diverse social and business settings.
- Understand how accounting procedures can be applied to decisions about planning, organizing, and allocating personal and financial resources.
- Understand principles of law as they apply to personal and business settings.
- Appreciate the value of the entrepreneurial spirit, both in the small business and the corporate environment.
- Understand that the various functions of a business are not separate but are interrelated, and that each one impacts the others.
- Apply the critical-thinking skills needed to function in students' multiple roles as citizens, consumers, workers, managers, business owners, and directors of their own economic futures.

(National Standards for Business Education, 2001, page viii).

## PURPOSE

The primary purpose of the 2004 Mississippi Business and Technology Framework is to promote business and economic literacy, both successful domestic and international functioning, diverse practice of interpersonal, teamwork, and leadership skills, technology as a tool for managing information, and lifelong learning skills that foster flexible career paths and confidence in adapting to a workplace that demands constant retooling. Furthermore, the 2004 Mississippi Business and Technology Framework provides teachers with a tool to help instruct students with the essential skills of finding, understanding, processing, and integrating information that helps them solve a variety of problems. In addition, students must possess a basic knowledge of the various business and technology content areas -- **accounting, business law, career development, communication, computation, economics and personal finance, entrepreneurship, information technology, international business, management, and marketing**, as well as other business and technology areas -- and how they interrelate.

The 2004 Mississippi Business and Technology Framework is the basis for district curriculum development for K-12 business and technology teachers. The curriculum provides an outline of what students should learn and do in business and technology classrooms. The curriculum replaces the previous business and technology curriculum developed in 2000.

## CYCLE

All Mississippi curriculum frameworks are on a six (6) year cycle, with the exception of the Business and Technology Framework. It is revised every four (4) to five (5) years. Approximately three years after a framework is implemented, a revision team is chosen to review the current framework and make changes and modifications based on best practices in the teaching of business and technology as reflected in state and national trends. The pilot year (optional) for the 2004 Mississippi Business and Technology Framework is school year 2004-2005. The implementation year for the framework is school year 2005-2006.

## REVISION PROCESS

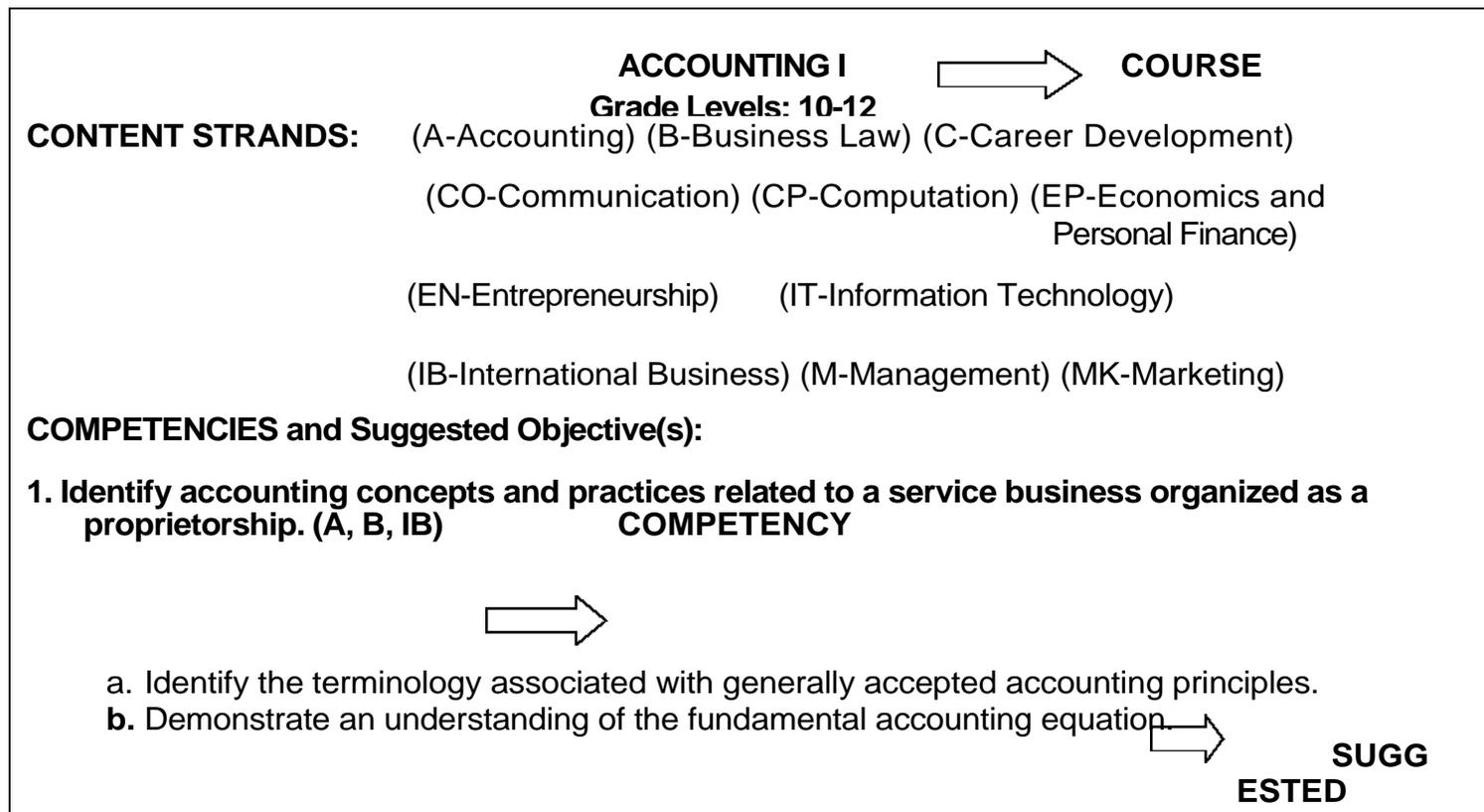
From nominations by school district superintendents and others, the Business and Technology Curriculum Revision Team was selected in August of 2003. The purpose of the team was to draft a new business and technology framework. The Business and Technology Curriculum Revision Team was composed of public school teachers, school district personnel, and university professors.

In order to gain understanding of the direction of business and technology education, surveys were sent to each school district, and the results were compiled for the Business and Technology Curriculum Revision Team. The team also reviewed current literature and incorporated national business education standards. Finally, drafts of the document were sent to the advisory team for input and were revised accordingly.

## ORGANIZATION

A course description is found preceding each course. The 2004 Mississippi Business and Technology Framework is formatted as follows:

Excerpt:



## STRANDS

The different content strands in business and technology combine to emphasize information technology and human relations—technology because it is the problem-solving and decision-making tool that supports every discipline, and human relations, because no business, not even a technology-based business, can succeed if it ignores the human factor. The 2004 Mississippi Business and Technology Framework is comprised of eleven (11) essential content strands: **ACCOUNTING, BUSINESS LAW, CAREER DEVELOPMENT, COMMUNICATION, COMPUTATION, ECONOMICS AND PERSONAL FINANCE, ENTREPRENEURSHIP, INFORMATION TECHNOLOGY, INTERNATIONAL BUSINESS, MANAGEMENT, and MARKETING**. The content strands overlap and combine in the competencies, showing the integrated and complex nature of business and technology.

The six process strands as defined by the International Society for Technology in Education (ISTE) are: **BASIC OPERATIONS AND CONCEPTS, SOCIAL, ETHICAL, AND HUMAN ISSUES, TECHNOLOGY PRODUCTIVITY TOOLS, TECHNOLOGY COMMUNICATIONS TOOLS, TECHNOLOGY RESEARCH TOOLS, and TECHNOLOGY PROBLEM-SOLVING AND DECISION-**

**MAKING TOOLS.** Integrating these into meaningful classroom activities provides opportunities for students to obtain and communicate information, to respond to communication, to use technology for learning and reflecting, and to apply critical- and creative-thinking skills for solving problems. Process strands provide assistance to teachers for planning technology-based activities.

## COMPETENCIES

**Competencies are required to be taught and are printed in bold face type.** Competencies are broad in order to allow school districts and teachers the flexibility to create a curriculum that meets the needs of their students.

The competencies may relate to one, many, or all of the business and technology curriculum strands and may be combined and taught with other competencies throughout the school year. *The competencies are not intended to be a list of content skills that are taught once, tested, and recorded as “mastered.”* Competencies are intended to be repeated through different units of study throughout the school year. Competencies in the framework are not ranked chronologically or in order of importance.

## SUGGESTED OBJECTIVES

**Suggested objectives are not mandatory; however, the suggested objectives serve as a guide, indicating how competencies can be fulfilled through a progression of content and concepts at each course.** Suggested objectives are not intended to be taught in isolation. Multiple suggested objectives can and should be taught in a well-organized instructional activity or unit. Each school district may adopt the suggested objectives, modify them, and are encouraged to write additional objectives that meet the needs of the students in their district.

## SUGGESTED TEACHING STRATEGIES AND SUGGESTED ASSESSMENT METHODS

The purpose of suggested teaching strategies and suggested assessment methods is to assist school districts and teachers in the development of a possible method of organization of required competencies and suggested objectives to be taught. Integration of concepts, content, and required competencies result in maximum curriculum connections, maximum time on task, and maximum opportunities for students. **Most suggested teaching strategies and suggested assessment methods are not fully developed and should be developed completely by the school district and teachers.**

Suggested teaching strategies are grouped into possible teaching units and are designed to be only the starting point for creative teaching. There may not be enough time to teach every activity with each suggested objective. Teachers who choose depth in covering one activity into several dimensions usually finds units of study more effective and a more efficient use of instructional time.

## BENCHMARKS

Benchmarks serve as broad business and technology goals that students should accomplish by grades 5, 8, and 12. **Benchmarks serve as indicators of student accomplishment of required competencies and may or may not be tested.**

Technology is a tool for learning and increasing productivity. The technology benchmarks included in 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 8-12, the benchmarks for students in grades K-12 are intended to be mastered across all subject areas. All K-12 teachers must integrate business and technology into their classes. The International Society for Technology in Education (ISTE) presents the curricular integration of technology as follows: "Curriculum integration with the use of technology involves the infusion of technology as a tool to enhance the learning in a content area or multidisciplinary setting. Technology enables students to learn in ways not previously possible. Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyze and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions-as accessible as all other classroom tools." (National Educational Technology Standards (NETS) for Students, page 6)

### **At the completion of grade 5, students will:**

- Develop basic skills for using hardware and applications (e.g., open/close a file, navigate using scroll bars, arrow keys, special keys, and mouse).
- Use correct terminology for basic components of a computer system (e.g., monitor, keyboard, disk, printer, mouse), and develop understanding of their basic functions.
- Explore and develop keyboarding skills either through touch typing and/or with keyboard functions.
- Explore basic formatting features of a word processing program.
- Explore and understand the basic function and purpose of a database.
- Explore and understand the basic function and purpose of a spreadsheet.
- Collaborate with classmates to use teacher-selected web sites.
- Collaborate with classmates and teacher to send a class e-mail message.
- Collaborate with classmates and teacher to create slide and PowerPoint presentations with existing templates.
- Explore the use of drawing, digital, and painting applications for class projects.

### **At the completion of grade 8, students will:**

- Integrate technology effectively in the learning process, regardless of the subject matter (continue to address earlier skills as needed).
- Address basic business, entrepreneurial, and personal finance concepts, and how these are integrated in a business venture.
- Apply technology skills, such as in Computer Applications.

- Identify components of a computer system, understand their functions, and use appropriate terminology in speaking about them (e.g., operating system, hard drive, memory, window).
- Identify and use basic features of a computer operating system (e.g., format and initialize disks, access information on size and format of a file, create folders on the local hard drive).
- Save a file to the desktop, the hard drive, and external storage spaces (e.g., floppy disk, Compact Disk Read-Only Memory (CD-ROM), virtual electronic space).
- Select a printer and print a document with appropriate page setup and orientation.
- Operate peripheral equipment (e.g., scanner, digital camera, camcorder, multimedia projector).
- Develop efficient keyboarding techniques.
- Identify and use editing and formatting features of a word processing program (e.g., centering, line spacing, margins, cut and paste, fonts, styles, spelling, page numbers). Insert images (e.g., graphics, clip art, tables) from other files into word-processed documents.
- Describe structure and function of databases and identify components (e.g., record).
- Create an original database, defining field formats and adding new records.
- Perform simple operations in a database (e.g., browse, sort, search, delete, add data).
- Describe structure and function of spreadsheets (e.g., cells, rows, columns, formulas) and apply formatting features.
- Create an original spreadsheet, entering simple formulas.
- Produce simple charts from spreadsheets.
- Identify and use navigation features of a browser (e.g., "go," "back," and "forward").
- Use a browser and "bookmark" a web site for future reference.
- Identify basic elements of a web site (e.g., Uniform Resource Locator (URL), hyperlinks, site map, etc.).
- Copy an image from a web site into a file on the desktop; write a correct citation caption in keeping with Copyright law.
- Use e-mail to create and send a message.
- Open an e-mail attachment and save it to the desktop.
- Use correct terminology in speaking about electronic communications (browser, search engine, online).
- Identify appropriate applications for a classroom

project. **At the completion of grade 12, students will:**

- Recognize skills needed to be effective consumers, citizens, workers, and business leaders (continue to address earlier skills as needed).
- Select projects based on personal and career interests.
- Recognize career exploration, work-based skills applicability, the need for business experience, and the importance of participation in student organizations.
- Demonstrate file management skills (e.g., install new software, compress and expand files as needed, download files as appropriate).
- Run multiple applications simultaneously, alternating among them.
- Resolve commonly occurring error messages, simple hardware and software problems as they occur (e.g., frozen screen, disk error, printing problems).

- Identify and use methods for transferring, downloading, and converting graphic, sound, and video files and use different graphic file formats where appropriate (e.g., Joint Photographic Experts Group (JPEG)).
- Save (also retrieve, load, and import) a word-processed document in different file formats (e.g., Hypertext Markup Language (HTML)).
- Use a variety of external peripherals (e.g., printers, Zip drives, scanner, digital camera) and understand how they connect to a computer.
- Perform efficient keyboarding techniques.
- Import/export and link data between word-processed document and other applications.
- Duplicate database structure without data.
- Use features of a database program, such as mailing labels and mail merges.
- Import/export and link data between databases and other applications.
- Use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets).
- Use formulas in a spreadsheet application.
- Import/export data between spreadsheet and other applications.

## **ELEMENTARY BUSINESS AND TECHNOLOGY EDUCATION**

### **GRADES K-2 OVERVIEW**

Students in grades K-2 are developing self-concepts, motor skills, and social relationships. They need opportunities for firsthand experiences in solving problems and manipulating real objects. Their vocabulary is expanding and they are learning at an exponential rate.

Young students learn best through exploration and interaction with peers and adults. Technology lends itself to this style of learning. Developmentally-appropriate activities should be planned to provide students with opportunities to utilize business and technology skills as they accomplish curriculum competencies. Students become accustomed to utilizing technology tools when technology is integrated into a variety of learning situations.

Effective teachers help students construct knowledge from information gathered by online curriculum projects, electronic databases, and other technology resources supported by productivity software. Responsible use of hardware is modeled by the teacher and internalized by students at this early stage of their educational careers.

The inherent motivation created by computers and other technologies can be used by all teachers to increase students' interest and excitement for learning while equipping them with technological tools that will enhance not only their formal educational years but also their professional and personal lives.

### **NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS) FOR STUDENTS IN GRADES K-2**

All students should have opportunities to demonstrate the following performances.

#### **Prior to completion of Grade 2, students will:**

1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audiotapes, and other technologies.
2. Use a variety of media and technology resources for directed and independent learning activities.
3. Communicate about technology using developmentally appropriate and accurate terminology.
4. Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning.
5. Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom.
6. Demonstrate positive social and ethical behaviors when using technology.
7. Practice responsible use of technology systems and software.
8. Create developmentally appropriate multimedia products with support from teachers, family members, or student partners.
9. Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories.
10. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners.

**NETS FOR STUDENTS, K-2**

<b>Performances</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1, 2, 4, 8, 9	While every child may not be able to see animals in the wild, every child can see, hear, and learn about wild animals through multimedia technology. Teacher will model the creative use of technology by making tape recordings, video recordings, PowerPoint presentations, etc., of wild animals.	Rubric
1, 2, 4, 8, 9	Students will create their own stories about what they have learned using a presentation tool, a software program that allows them to make their own pictures of the animals, assemble them into slide shows, and print out their own books to share with classmates and family. Teacher will videotape the students' activities as part of their assessment and will share them with students and parents.	
1, 2, 4-8	Teacher will read a story to students. Teacher will have a group discussion about the story and list basic details about the story. Teacher will divide students in groups and have them use a paint program and illustrate the story. Teacher will print the illustrations and have each group describe the illustration. Teacher will display the illustrations in the classroom.	Observation
3, 4, 9, 10	Teacher will talk to students about different types of technology in schools, homes, and the community. Teacher will make a list and have them choose one to talk to their family members about ways that they use that technology.	Rubric
1-3, 6, 7, 10	Teacher will label the keyboard, mouse, monitor, remote control, etc., in the classroom and talk to students about the functions of each of these devices. Students will learn to use these devices appropriately throughout the year.	Observation/rubric

## GRADES 3-5 OVERVIEW

Students in grades 3-5 begin to expand their horizons and exercise more independent thoughts and actions. Many opportunities utilizing technology and business concepts should be provided for students to work collaboratively to accomplish authentic tasks. Students begin to use the Internet more independently to conduct searches required for completing assignments. This naturally leads to discussions of legal and ethical use of information and judgments as to the value of information found on the Internet.

Activities using information drawn from the Internet lend structure to projects, while remaining open-ended enough to encourage critical thinking and allow for pursuit of individual student interests. Students at this age are becoming more literate regarding the use of a variety of software applications that enable them to express themselves through original compositions and illustrations. A natural extension of this self-expression is publishing content for the Internet, thereby allowing students to become a part of a greater community of learners.

A technology-infused curriculum cultivates an atmosphere rich with motivation and interest in which students thrive intellectually and emotionally. Technology and academic skills mastered at this level provide the basis for future learning experiences.

## NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS) FOR STUDENTS IN GRADES 3-5

All students should have opportunities to demonstrate the following performances.

### **Prior to completion of Grade 5, students will:**

1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.
2. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide.
3. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.
4. Use general-purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum.
5. Use technology tools (e.g., multimedia authoring, presentation, web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities, to create knowledge products for audiences inside and outside the classroom.
6. Use telecommunications efficiently to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests.

7. Use telecommunications and online resources (e.g., e-mail, online discussions, web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom.
8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities.
9. Determine which technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.
10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.

**NETS FOR STUDENTS, 3-5**

<b>Performances</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1, 2, 4-9	<p>Students will identify two or three topics they might want to research on the Web, and record their topics. Teacher will ask students to share what they know about using the Internet or the World Wide Web. Teacher will encourage them to talk about web sites they have visited and what they learned from their visits. Teacher will make sure everyone in the class understands that: (a) the Web can be a helpful place to find information on certain topics, including many topics studied in school, and (b) a web site is a place where groups of people share information and resources on the Internet.</p>	Observation/rubric
1, 2, 4-9	<p>Teacher will introduce younger students to the World Wide Web by asking them to name topics they would like to research, then guiding them through the use of a search engine to find web sites that offer useful information on their topics.</p>	
1-10	<p>Teacher will have students virtually visit Blacksburg, VA. Teacher will instruct students to view the weather, transportation, maps, village mall, libraries, museums, and townspeople using the Internet.</p>	Checklist

## **MIDDLE GRADES**

### **BUSINESS AND TECHNOLOGY EDUCATION**

#### **GRADES 6-8 OVERVIEW**

Students in grades 6-8 possess a wide range of intellectual abilities, learning styles, talents, and interests. These students are going through a transitional period that includes physical, social, emotional, and intellectual changes. They are developing the skills to solve complex verbal and hypothetical problems.

In an increasing information-oriented world, demands upon students to think on higher levels are steadily increasing. Technology tools help to augment and optimize their ability to process information. Students are provided with technological tools and knowledge needed to synthesize information from across the curriculum efficiently and appropriately.

The technology benchmarks for grades 6-8 are designed to complement all areas of the academic curriculum. The integration of technology enhances middle school students' emerging abilities to analyze, synthesize, and evaluate information. Students can use business concepts and technology tools to demonstrate and communicate curriculum concepts to audiences more effectively. Students can also evaluate the accuracy, comprehensiveness, and bias of electronic information sources concerning real-world problems.

### **NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS) FOR STUDENTS IN GRADES 6-8**

All students should have opportunities to demonstrate the following performances.

**Prior to completion of Grade 8, students will:**

1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.
2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.
3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.
4. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, web tools) to support learning and research.
5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.
6. Design, develop, publish, and present products (e.g., web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.
7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.
8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.

9. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.
10. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.

**NETS FOR STUDENTS, 6-8**

Performances	Suggested Teaching Strategies	Suggested Assessments
1-7	Students will use available software (e.g., Paint) to create Valentine or birthday cards for nursing home patients.	Observation
4-8	Students will use available software (e.g., Adobe Photoshop). Students will create bio-poems to introduce themselves to the class at the beginning of the year and as part of a unit on self-discovery. They will use the Internet to research important events that occurred on their birth dates and then research celebrities who share their same birth dates. Students will find out the top ten songs for the year they were born and who won the Academy Awards and Grammy for best song and picture of that year. Students then will compile information along with pictures of themselves to present a PowerPoint presentation about their lives.	Rubric generated by teacher/student collaboration
5-8	Students will use the Internet and search for the top 20 projected occupations in MS. The U. S. Department of Labor receives and distributes labor information from each state and updates its statistics daily. Teacher will divide students into groups and let each group select five occupations and develop a survey. Each survey should query other individuals regarding the estimated annual income for those occupations.	Rubric
5-8	Students will analyze the survey results, comparing results to actual salaries as reported on the U. S. Department of Labor page and other Internet sites, calculating the averages of estimates, and displaying the information in appropriate graph format.	
1-10	Students will create a school newspaper using available software (e.g., Quark).	Rubric/student collaboration
1-10	Students will use a presentation tool to present literary book reports to the entire class.	Observation/rubric

## SECONDARY BUSINESS AND TECHNOLOGY EDUCATION

### GRADES 9-12 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 developing 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 to seek opportunities for developing 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 into 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 world 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 certain courses will assist students in developing the ability to respect differences and to develop the skills necessary for becoming productive adults.

Course content should be integrated into other curricular areas to allow students to reinforce and expand business and technology required 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 becomes evident. Technology and business literate students realize that technology and business skills enhance not only educational endeavors but also personal and professional success as well.

**National Educational Technology Standards (NETS) for students in grades 9-12 are embedded in all of the courses listed in the 2004 Mississippi Business and Technology Framework.**

## **ACCOUNTING I**

### **Grade Levels: 10-12**

Accounting is an essential aspect of every business institution and organization. As future workers, small business owners, and entrepreneurs, students who understand basic accounting principles will more knowledgeably manage their companies' financial resources. As citizens, future parents, and investors, these students will be better prepared to make the economic decisions that will positively impact their communities and make the financial decisions that will affect their own economic futures.

Accounting I will allow students to learn accounting terminology, principles, and procedures as they relate to a single proprietorship, a partnership, and a corporation. The study of accounting will prepare students for accounting careers and for personal use, as well as provide opportunities for further study.

This course is designed with a choice of tracks—(1) the standard accounting competencies without the availability of computers or (2) the standard accounting competencies incorporating the use of automated accounting software. Automated Accounting competencies are designated by the prefix of "AA." Any accounting-based computer applications would be especially appropriate to many of the course objectives.

This course is designed to be a full-year, 1 credit course.

Prerequisites: None

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

- 1. Identify accounting concepts and practices related to a service business organized as a proprietorship. (A, EN, M)**
  - a. Identify the terminology associated with generally accepted accounting principles.
  - b. Demonstrate an understanding of the fundamental accounting equation.
  
- 2. Classify accounts used within a business organized as a proprietorship. (A)**
  - a. Classify items as assets, liabilities, or owner's equity.

- b. Describe the purposes of the revenue, expense, and drawing accounts and illustrate their effects on owner's equity.

**3. Analyze how business transactions increase/decrease accounts within a service business organized as a proprietorship. (A)**

- a. Analyze business transactions using source documents.
- b. Describe the effect transactions have on the accounting equation.

**4. Analyze, journalize, and post business transactions related to a proprietorship. (A)**

- a. Using the double entry method, analyze debit and credit parts of a transaction.
- b. Explain the purpose of the journal and the process of journalizing business transactions into debit and credit parts.
- c. Analyze the relationship of the journal to the ledger.
- d. Explain the purpose of a ledger account and demonstrate how to post information from the journal to the ledger.

**5. Apply accounting principles to prepare a worksheet and financial statements (income statement and balance sheet) for the end-of-fiscal period for service business organized as a proprietorship. (A, CP)**

- a. Apply appropriate accounting principles and prepare a trial balance.
- b. Analyze the trial balance and plan adjustments to bring necessary account balances up-to-date.
- c. Apply appropriate accounting principles and separate general ledger account balances according to the financial statements to be prepared.
- d. Demonstrate the ability to calculate net income or net loss for a fiscal period.

**6. Apply accounting principles and explain the purposes of the adjusting and closing processes. Calculate, journalize, and post entries necessary to perform both processes and prepare end-of-fiscal period reports. (A, CP)**

- a. Apply accounting principles in calculating, journalizing, and posting adjusting entries.
- b. Apply accounting principles in journalizing and posting closing entries.
- c. Apply accounting principles in preparing a post closing trial balance.

**7. Identify and explain procedures used in a cash control system for a service business organized as a proprietorship. (A, CP)**

- a. Identify banking terminology.
- b. Analyze and record transactions related to banking procedures.
- c. Prepare banking forms related to using a checking account.
- d. Reconcile a bank statement.
- e. Analyze, journalize, and post transactions used to establish and maintain a petty cash system.

**8. Identify accounting concepts and practices related to a merchandising business, organized as a partnership. (A)**

- a. Define accounting terms associated with a merchandising business organized as a partnership.
- b. Identify accounting concepts and practices related to a merchandising business organized as a partnership.

**9. Analyze, journalize, and post business transactions related to a merchandising business. (A, CP)**

- a. Create and maintain the accounts receivable ledger.
- b. Create and maintain the accounts payable ledger.
- c. Identify and explain the purpose of a controlling account and its relationship to the subsidiary ledgers.
- d. Explain the concept of a withdrawal of merchandise by an owner and apply accounting principles to journalize the transaction.

**10. Identify, classify and determine the normal balance of all cost and revenue accounts. (A)**

- a. Identify, classify, and determine the normal balance of all cost accounts and contra accounts (purchases, purchase returns and allowances, and purchase discounts).
- b. Analyze and journalize transactions relating to all revenue accounts and contra accounts (sales, sales returns and allowances, and sales discount).

**11. Prepare and maintain payroll records. (A, CP)**

- a. Calculate total earnings at an hourly or piece rate and on a salary, commission, or salary/commission basis.
- b. Calculate total deductions, including federal income tax, Social Security tax, Medicare tax, and other miscellaneous deductions.
- c. Calculate net earnings for employees.
- d. Calculate employer's payroll taxes (Social Security, federal and state, and unemployment).
- e. Prepare federal payroll reports
- f. Journalize and post transactions related to payroll records.

**12. Identify, review, and apply accounting principles in preparing a worksheet and financial statements (income statement, distribution of net income statement, owner's equity statement, and balance sheet) for a merchandising business. (A, CP)**

- a. Review appropriate accounting principles needed to prepare a trial balance for a merchandising business.
- b. Analyze the trial balance and plan adjustments to bring necessary account balances up-to-date.
- c. Apply appropriate accounting principles, complete the worksheet and determine net income or net loss for a fiscal period.
- d. Prepare and explain the purposes of each financial statement and describe the way they articulate with each other as related to a merchandising business.

**13. Review and apply accounting principles in performing closing procedures for a merchandising business organized as a partnership. (A)**

- a. Apply accounting principles in journalizing and posting adjusting entries for a merchandising business.
- b. Apply accounting principles in journalizing and posting closing entries for a merchandising business.
- c. Apply accounting principles in preparing a post closing trial balance for a merchandising business.

***\*\*\*At this point, teachers may continue the traditional track with the remaining objectives provided in this curriculum. If the teacher has access to computers and wishes to continue the course via a technology route, objectives that are written for the technology track are provided following the traditional track objectives.***

**TRADITIONAL COMPETENCIES and Suggested Objective(s):**

**14. Identify accounting concepts and practices related to a business organized as a corporation. (A, EP, EN, M)**

- a. Explain the advantages and disadvantages of the three forms of business ownership—sole proprietorships, partnerships, and corporations.
- b. Define accounting terms related to a corporation.
- c. Analyze, record, and post transactions to the appropriate journals and ledgers.
- d. Identify and apply accounting principles in preparing a worksheet for a corporation, including the calculation and planning of adjusting entries for a corporation (uncollectible accounts, depreciation, inventory, notes receivable and notes payable).
- e. Identify and apply accounting principles in preparing financial statements (income statement, statement of stockholders equity, and balance sheet) for a corporation.
- f. Applying accounting principles, record and post adjusting, closing, and reversing entries for a corporation.

**AUTOMATED ACCOUNTING (AA) COMPETENCIES and Suggested Objective(s):**

**AA1. Identify and apply the procedures for keeping automated accounting records. (A, IT)**

- a. Apply proper procedures in loading accounting software.
- b. Apply proper procedures in accessing and saving data files.

**AA2. Identify and apply concepts and procedures to maintain the chart of accounts and perform the activities related to entering, posting and correcting general journal entries. (A, IT)**

- a. Prepare the general journal input form.
- b. Enter chart of accounts maintenance data.
- c. Enter and correct journal entries.

- d. Generate and display accounts, journal entries, graphs, and ledger reports.

**AA3. Identify and apply automated accounting principles for end-of-fiscal period procedures and bank reconciliation. (A, IT)**

- a. Calculate and enter adjusting entries.
- b. Generate financial reports.
- c. Perform automated accounting closing procedures.
- d. Identify and apply automated accounting principles related to bank reconciliation procedures.

**AA4. Identify and apply automated accounting procedures for maintaining plant asset data, generating a plant assets list report, and creating depreciation schedules. (A, IT)**

- a. Plan and key transactions related to additions, changes, and deletions of plant assets and generate plant assets reports.
- b. Calculate, generate, and post monthly depreciation adjusting entries.

**AA5. Identify and apply automated accounting principles related to payroll procedures. (A, IT)**

- a. Prepare and modify employee information.
- b. Prepare and input payroll information.
- c. Generate and post the payroll journal entries.

**ACCOUNTING I, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will use flash cards to teach terms. Students will practice with drills involving terms learned.	Observation
1	b	Teacher will write accounting equation on the board and show how changes on one side can affect the other side.	Observation during class discussion and practice
2	a	Students will list examples of assets and liabilities and explain how they relate to the accounting equation.	Observation during class discussion and practice
2	b	Teacher will discuss with students the temporary capital accounts, why they exist, the balance side, and increase/decrease side of each account. Students will divide into small groups and complete T-accounts for all temporary capital accounts, indicating the balance, increase, and decrease sides.	Observation
3	a, b	Teacher will set up T-accounts on the board and ask students to analyze a list of transactions by answering the following questions: "What accounts are affected, are they increased or decreased, and are they debited or credited?" Have volunteer students write in answers on the board.	Observation during class discussion and practice
4	a, b	Teacher will read transactions and ask students to analyze each transaction: account classification of each account, which account is increased/decreased, and which account is debited/credited.	Observation during class discussion and independent practice with problems and cases
4	c, d	After illustrating the proper procedures for posting journal entries to the ledger, students will move into small groups and practice posting procedures. Teacher will encourage peer tutoring within the groups.	Observation
5	a, b	After teacher illustrates how to complete a worksheet, students will divide into groups of 2-3 and will complete a practice problem.	Observation
5	c, d	Students will prepare and explain the purpose of each financial statement and will describe the way they articulate with each other as related to a service business.	Rubric
6	a, b	Teacher will present the class with scenarios that help students understand the need for adjusting selected	Checklist

**ACCOUNTING I, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
6	c	<p>account balances and for closing temporary accounts. Students will move into groups and list reasons for these entries.</p> <p>Teacher will discuss the reasons for a post-closing trial balance, asking for student input.</p>	Observation during class discussion
7	a-c	<p>Teacher will bring in a local bank representative to discuss banking terms and procedures. This representative will bring examples of forms related to a checking account. After the session, students will write a short essay discussing the presentation.</p>	Rubric
7	d	<p>Teacher will demonstrate on overhead projector (or form drawn on the board) how to reconcile a bank statement, letting students supply the numbers. Next, teacher will ask for two volunteers to complete another bank reconciliation in front of the class, having the remainder of the class check for accuracy. Finally, students will move into groups to complete two additional bank recomputations (supplied by the teacher) within their groups.</p>	Observation during class discussion and practice
7	e	<p>Teacher will discuss establishing a petty cash fund, illustrating entries for setting it up and replenishing.</p>	Observation
8	a	<p>Group of students will list 25 businesses in the local area and classify each as a service or merchandising business. Students will list reasons for their classifications.</p>	Rubric
8	b	<p>Group of students will create a list of similarities and differences between a partnership and a proprietorship.</p>	Peer assessment checklist
9	a-c	<p>Teacher will discuss the subsidiary ledgers and their respective controlling accounts and the purpose for each. Teacher will provide problems, have students divide into groups, post to the subsidiary ledgers and controlling accounts, and prepare schedules for both the Accounts Receivable and Payable ledgers.</p>	Peer assessment checklist

**ACCOUNTING I, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
9	d	Teacher will discuss the difference between the withdrawal of cash and merchandise by a business partner. Teacher will ask for student input on reasons why it is important to keep track of withdrawals of merchandise.	Observation
10	a, b	Teacher will discuss with class the difference between a purchase return, a purchase allowance, a sales return, and a sales allowance and the ramifications of each. Students, as a group, will provide examples of each.	Observation
11	a-c	Teacher will project an incomplete payroll register on the board. Volunteer students will come to the board and calculate total earnings, individual deductions (taxes, insurance, donations), and net earnings.	Student critique
11	d, e	Teacher will discuss payroll taxes, why they are required, why they are journalized as an expense, and how they benefit the employee. Teacher will illustrate on an overhead or the board how to calculate each tax.	Observation during class discussion and practice
12	a-c	Teacher will illustrate and review the preparation and completion of a worksheet. Teacher will discuss and illustrate how to calculate new adjustments.	Observation
12	d	Teacher will discuss and illustrate to students why each financial statement is prepared in an established sequence (income statement, distribution statement, owner's equity statement, and balance sheet). Students will speculate as to why this order is in effect.	Observation during class discussion and practice
13	a-c	Teacher will review accounting principles needed in journalizing and posting adjusting and closing entries. Teacher will review the preparation of a post closing trial balance.	Observation
14	a-c	Students will create a chart listing the major accounting differences between the three forms of business ownership.	Rubric
14	d	Teacher will review and illustrate the preparation of a worksheet for a corporation, identifying new accounts, planning adjustments, and completing the worksheet.	Observation

**ACCOUNTING I, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
14	e	Teacher will illustrate the preparation of the financial statements for a corporation. Teacher will divide students into groups and provide problems for group completion.	Checklist for peer evaluation
AA1	a, b	Teacher will demonstrate, via a data image projector, the start-up procedures, software access instructions, and file storage rules for automated accounting software.	Observation
AA2	a-c	Teacher will demonstrate how data from the general journal input form is entered, posted, inserted and located.	Observation
AA2	d	Teacher will explain the similarity of manually posting a journal to what the computer does when posting is done automatically.	Observation during class discussion and practice
AA3	a	Teacher will divide students into groups and have them calculate adjusting entries and enter on input forms. Students will exchange input forms for peer evaluation. Students will move to individual computers for data entry of adjusting entries.	Observation
AA3	b	Teacher will explain and demonstrate how financial statements are selected for display or printing and compare the format to manually prepared financial statements.	Observation
AA3	c	Using a data image projector, teacher will illustrate how to perform automated closing procedures.	Observation
AA3	d	Using a data image projector, teacher will illustrate how to complete an automated bank reconciliation.	Observation
AA4	a	Using a data image projector, teacher will illustrate the procedure used to maintain plant assets and to generate the plant asset list report, and depreciation schedules.	Observation
AA4	b	Students will use the Internet browser to find financial wizard application software that includes various depreciation method calculations (Hint: Use "Depreciation" as a search argument). Students will report their findings.	Rubric

**ACCOUNTING I, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
AA5	a, b	Teacher will explain and illustrate how employee maintenance data is recorded onto the input form and the procedures to enter, change, and delete employee data from the payroll file.	Observation during class discussion and supervised practice
AA5	c	Using a data image projector, teacher will illustrate the procedure for generating and posting payroll entries.	Observation

## **ACCOUNTING II**

### **Grade Levels: 11-12**

Accounting II is a review and expansion of topics covered in Accounting I. Accounting II will incorporate accounting principles and procedures in managerial, intermediate, and cost accounting with an emphasis on corporate accounting. Advanced concepts and practices are integrated with related computer skills. Accounting II is designed to prepare students who plan to pursue a career in accounting or business. Use of accounting-based computer applications are recommended in meeting the course competencies.

This course is designed to be a full year, 1 credit course.

Prerequisite: Accounting I

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

- 1. Demonstrate knowledge of the accounting cycle in a departmentalized business. (A, CP, M)**
  - Define accounting terms related to a departmentalized business.
  - Analyze, record, and post business transactions in the appropriate journal.
- 2. Demonstrate knowledge of accounting principles and procedures involving accounts receivable. (A, CP, M)**
  - Journalize transactions for uncollectible accounts.
  - Calculate and analyze accounts receivable turnover ratio.
- 3. Record general accounting adjustments for plant assets. (A, CP, M)**
  - Calculate depreciation, accumulated depreciation, and book value on plant assets.
  - Journalize related transactions.
  - Calculate depreciation sum-of-the-year digits and declining balance methods.
  - Calculate and journalize property tax.

**4. Record general accounting adjustments for notes receivable. (A, CP, M)**

- a. Review calculating due date on notes.
- b. Review calculating interest on a note/proceed on a note.
- c. Journalize transactions relating to notes receivable.
- d. Record adjusting and reversing entries on unearned and accrued revenue.

**5. Record general accounting adjustments for notes payable. (A, CP, M)**

- a. Journalize transactions relating to notes payable.
- b. Journalize adjusting and reversing entries on notes payable.

**6. Apply accounting concepts and procedures for starting a corporation. (A, CP, EP, M)**

- a. Identify terms related to corporate accounting.
- b. Journalize transactions for starting a corporation.
- c. Prepare a balance sheet for a new corporation.
- d. Calculate dividends and journalize related transactions.

**7. Apply accounting concepts and procedures for acquiring additional capital in a corporation. (A, CP, EP, M)**

- a. Define treasury stock and record related transactions.
- b. Define bonds payable and record related transactions.

**8. Apply accounting concepts and procedures for end of the fiscal period for a corporation. (A, CP, M)**

- a. Prepare an income statement.
- b. Prepare a balance sheet.
- c. Prepare a stockholder's equity statement.
- d. Record closing entries unique to a corporation.

**9. Apply managerial accounting principles and procedures related to inventory. (A, CP, M)**

- a. Calculate ending inventory using Last-In, First-Out (LIFO), First-In, Last-Out (FIFO), and weighted average.
- b. Calculate merchandise inventory turnover ratio.
- c. Convert ratio to number of days.

**10. Apply managerial accounting principles and procedures to budgetary planning. (A, CP, M)**

- a. Define related budgetary planning terms.
- b. Prepare budgeted income statement.
- c. Prepare a cash budget.

**11. Apply cost accounting principles and procedures. (A, CP, M)**

- a. Prepare a job cost sheet.
- b. Journalize entries related to cost records for a manufacturing business.

ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will divide the class into groups of 3-4 students and give each group a problem involving entries for various departments. Students will divide themselves into “departments” and will journalize and post the entries required by “departments.”	Observation
2	a	<p>After discussing and journalizing entries involving uncollectible accounts, teacher will have students use the Internet to complete the following activity:                      Safeway is the third-largest food and drug chain in the United States, behind only Kroger and American stores. To maximize profits, large retailers like Safeway, Kroger, and American stores must monitor their uncollectible accounts and accounts receivable turnover. Go to Safeway’s web site and locate its annual report. <a href="http://www.safeway.com">http://www.safeway.com</a></p> <p>1. Suppose that Safeway uses the percentage of sales method to compute uncollectible accounts expense and estimates that 0.6% of its net sales will be uncollectible. What would be Safeway’s estimated uncollectible accounts expense for the most recent year?                      2. Compute Safeway’s accounts receivable turnover ratio for the recent year. What does this number tell you?                      3. Go to Kroger’s web site at <a href="http://www.kroger.com">http://www.kroger.com</a></p>	Checklist
2	b	<p>and calculate its accounts receivable turnover for the most recent year. Who has more favorable accounts receivable turnover: Safeway or Kroger?</p> <p>After discussing accounting principles involving accounts receivable, students will use the Internet to research the following:                      With over 285 stores in 32 states and annual revenues of over \$8 billion, Best Buy is the #1 consumer electronics and appliance specialty retailer in the United States. Go to Best Buy’s annual report on its web site to learn more about its inventory and financial reporting policies. <a href="http://www.bestbuy.com">http://www.bestbuy.com</a></p>	Checklist

## ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
3	a-c	<p>1.What amount of merchandise inventory did Best Buy report on its most recent balance sheet?</p> <p>2.What was Best Buy's merchandise inventory turnover ratio for the most recent year? What does this ratio indicate?</p> <p>3.When does Best Buy's fiscal year end? Why might a company choose a date other than December 31<sup>st</sup> on which to end its fiscal year?</p> <p>Teacher will distribute the problem and have students use the Internet in answering the questions. Students will determine their answers and submit them in a word processing document.</p> <p>Plant assets, such as land, buildings, and equipment, are expected to help a business earn a profit for more than one year. A large technology company, such as Microsoft, invests a significant amount of money in its plant assets. Locate Microsoft's most recent annual report on its web site. <a href="http://www.microsoft.com">http://www.microsoft.com</a></p>	Checklist
3	d	<p>1.What amount of plant assets (property, plant, and equipment) did Microsoft report on its most recent balance sheet?</p> <p>2.What method of depreciation does Microsoft use for its plant assets for financial reporting purposes? (Hint: Look at the notes to the financial statements.)</p> <p>3.When Microsoft prepares its corporate income tax return, all depreciation is reported using MACRS. Why would a company use one method of computing depreciation for financial reporting purposes and another method for tax reporting purposes?</p> <p>Teacher will present the following for students to complete:</p> <p>Preparing depreciation schedules for plant assets, evaluating the effects of alternative methods of depreciation, analyzing the results of differing acquisition options can be time consuming, tedious tasks...just the type of thing a computer can do best.</p>	Rubric

ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments															
		<p>Your supervisor has just given you the following project. The company intends to purchase a new production machine and has two choices.</p> <table border="1" data-bbox="354 569 1076 743"> <thead> <tr> <th></th> <th>Machine A</th> <th>Machine B</th> </tr> </thead> <tbody> <tr> <td><b>Cost</b></td> <td>\$115,500</td> <td>\$167,850</td> </tr> <tr> <td><b>Salvage</b></td> <td>1,000</td> <td>27,850</td> </tr> <tr> <td><b>Life in Years</b></td> <td>15</td> <td>22</td> </tr> <tr> <td><b>Life in Units</b></td> <td>80,000</td> <td>105,000</td> </tr> </tbody> </table> <p>1.Prepare 3 depreciation schedules using straight line, double declining balance, and sum of the years' digits methods for both machines. Each schedule should show the depreciation expense, accumulated depreciation, and book value for each year. Save your work using depre1 for a file name.</p> <p>2.Prepare the same 3 schedules assuming that the salvage values for both machines are \$0. Save this file as depre2.</p> <p><u>Requirements and Suggestions:</u></p> <p>1.The format should be the comma (,), with 2 decimal points and a column width of 14. Click on the little square in the upper left corner of the spreadsheet, thus selecting the entire spreadsheet. Click on "format," select column, enter 14, and ok. Click on "format," select cell, select #, ###.00, and ok.</p> <p>2.You must use formulas throughout the project.</p> <p>3.Remember to use the \$ when necessary to lock in a cell location when copying formulae.</p> <p>4.Set up your spreadsheet in an organized, logical manner.</p> <p><u>EXCEL and Financial Wizards:</u></p> <p>In addition to handling everyday spreadsheet functions, EXCEL can perform numerous mathematical, logical, special and financial functions. When used properly, these functions assist accountants in preparing accurate, logically correct, repetitive reports and schedules in a minimum amount of time. Spreadsheet software proves its value when used to analyze and compare "What if" alternatives...situations.</p>		Machine A	Machine B	<b>Cost</b>	\$115,500	\$167,850	<b>Salvage</b>	1,000	27,850	<b>Life in Years</b>	15	22	<b>Life in Units</b>	80,000	105,000	
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## ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
		<p>EXCEL functions of particular interest to an accountant include:</p> <p>NPV Net Present Value  PMT Payment amount needed to amortize an Investment or debt  PV Present value of an annuity  FV Future value of an annuity  DB Double Declining Balance Depreciation  SLN Straight Line Depreciation  SYD Sum of the Years' Digits Depreciation</p> <p>To Use These Function Wizards:</p> <ol style="list-style-type: none"> <li>1. Use the mouse and "click" on the fx button.</li> <li>2. Select "financial" category.</li> <li>3. Select the function of choice.</li> <li>4. Enter the data requested.</li> <li>5. Remember to use cell addresses, not numbers and to lock an address when necessary.</li> </ol> <p>Teacher will instruct students to research property taxes on the Internet to determine the various types of property taxes. Students will prepare a report defining, explaining, and giving examples for each type of property tax.</p>	
4	a, b	Teacher will prepare a handout exercise that requires students to calculate due dates on notes receivable and calculate the interest and total proceeds on a note. Students will complete the assignment and submit it for grading.	Rubric
4	c	<p>Students will use the Internet to research, answer the following questions, and present answers in a word processing document.</p> <p>Revenue received in one fiscal period but not earned until the next fiscal period is called unearned revenue. Many entertainment organizations sell season tickets to their productions, often resulting in unearned revenue. Consider the accounting effects of season ticket sales on a professional sports association, such</p>	Checklist

ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	d	as the Boston Celtics: <a href="http://www.nba.com/celtics">http://www.nba.com/celtics</a>	Rubric
		<p>1.How can fans obtain season tickets for Boston Celtics games?</p> <p>2.If the Boston Celtics' records revenue from season ticket sales when it is initially received, what adjustment is required at year-end?</p> <p>3.Should sports teams recognize season ticket sales as revenue when the sales are made, or should they wait until the end of the season to recognize the revenue? Support your answer.</p> <p>Teacher will divide students into groups and have them prepare PowerPoint presentations to be viewed by the entire class. The presentations will illustrate methods for calculating adjusting and reversing entries involving unearned and accrued revenue and the process for journalizing and posting.</p>	
		<p>Teacher will lead the class in <b>Accounting Jeopardy!</b> After discussing terms, transactions, and entries related to notes payable, students will make up Jeopardy-type answers for which the questions relate to the unit. Each of the answers is to be a term, transaction, or situation in which a business might encounter. The answers can either be a violation of a principle or an illustration of a principle related to notes payable. Teacher will divide the class into two or three teams to ask questions of each other.</p>	
5	a, b	<p>Teacher will enlist a corporate accountant to speak to the class about establishing a corporation--why the corporation is established, how the accounting setup changes, and transactions that are required for setting up a corporation. The speaker will also discuss methods of securing additional capital for the corporation. Students will prepare a two-page paper, which discusses the information gained from the speaker.</p>	Observation
6	a, b		Observation

ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
6	c, d	<p>Teacher will provide students with the following worksheet to be completed:                      Companies that are “publicly traded” (i.e., corporations and some forms of partnerships) are required to publish annual financial statements. The required statements include the Income Statement, Statement of Owners’ Equity, Balance Sheet, and a Cash Flow Statement. In addition, explanatory notes, prior years’ information, and a statement from independent auditors are frequently required. The Internet is a tremendous source for accessing company information. Some companies (such as Ford Motor Company and Eastman Kodak Company) maintain their own “home pages” or “bulletin boards.” You can subscribe to one of many service companies that compiles, collates, and may even comment on the financial data available. Choose a company and complete the following assignment:                      Internet Search Assignment:</p>	Rubric
		<p>Using the Internet for your information, supply answers to the following:                      1. Company Name                      2. Internet Address                      3. Name of Chief Executive Officer, Chairperson of the Board of President                      4. Net Income of the Company for:                      1993 \$ _____                      1994 \$ _____                      1995 \$ _____                      5. Total Assets for:                      \$ _____ \$ _____ \$ _____                      6. One item of interest...new product, new acquisition, explanation of recent loss or problem.                      7. If you had the money, would you invest in this company? Why or why not?                      8. Why did you look for this particular company?</p>	
7	a, b	<p>Teacher will discuss terms and definitions with students and will demonstrate the related journal entries.</p>	Observation

ACCOUNTING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
8	a-c	Teacher, after teaching a unit on procedures for end-of-fiscal period for a corporation, will distribute an incorrect income statement, balance sheet, and stockholder's equity statement. Students will determine where the errors are, correct them, and then prepare corrected financial statements.	Rubric
8	d	Students will create a chart, illustrating the differences in closing entries between a proprietorship, a partnership, and a corporation.	Rubric
9	a	Teacher will use illustrations to help students remember the difference between the methods of calculating depreciation: "first-in, first-out," "last-in, first-out," and "weighted average."	Observation
9	a	<p>Teacher will use the following example to help teach the concepts of FIFO and LIFO:</p> <p><b>FIFO:</b> Trucks delivering inventory pull up at the front door of the warehouse, which also has a back door that leads to the selling floor. The goods are unloaded from the truck and placed on a conveyor belt that runs from the front door to the back. As additional goods are delivered during the period, the conveyor belt carries the first items received to the back door, and they are sent to the selling floor and sold first. Inventory at the end-of-period consists of those items still on the conveyor belt (the newer items.)</p> <p><b>LIFO:</b> The warehouse has only a front door. Trucks delivering inventory unload at the front door. When inventory is needed on the selling floor, the clerks have to come to the front door and remove the closest items (the newer ones). This leaves the ending inventory to be composed of those earliest purchased items that have been pushed to the back of the warehouse as newer shipments are received.</p>	Observation
9	b, c	Teacher will divide students into two groups. One group will be supplied information to calculate the merchandise turnover rate. The other group will take	Observation

**ACCOUNTING II, 11-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
10	a-c	<p>The figures from the first group and calculate ratio to number of days.</p> <p>Teacher will discuss budgeting for a corporation and cover the seven steps involved in the process. They are:</p> <ol style="list-style-type: none"> <li>1. Gather the required information about sales, operations, capital, and start-up costs.</li> <li>2. Prepare a sales budget.</li> <li>3. Prepare a purchases budget.</li> <li>4. Prepare operating, start-up, and capital costs budgets.</li> <li>5. Prepare a cash budget.</li> <li>6. Prepare a budgeted income statement.</li> <li>7. Prepare a budgeted balance sheet.</li> </ol>	<p>Observation</p> <p>Rubric</p>
11	ab	<p>Students will divide into groups and prepare each of the listed items using information supplied by the teacher.</p> <p>Teacher will discuss cost accounting with students. Students will move to computers to prepare a job cost sheet. After completing the cost sheet, students will journalize entries related to cost records. Students will pair up and peer evaluate the work of their partner.</p>	<p>Observation</p>

## **ADVANCED SOFTWARE TOPICS**

### **Grade Levels: 11-12**

Advanced Software Topics is designed to provide additional training in application software. Students will produce original projects using advanced skills. The course is designed to build a more in-depth foundation of any software-based class that is included in the Business and Technology Framework. **Competencies are written broad enough so that they may be adapted to any advanced software application.**

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery; Instructor Recommendation based on course content

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Identify components of a computer system. (IT)**

- a. Review system startup.
- b. Review peripherals.
- c. Review the precautions and care related to the proper use of computers and accessories.
- d. Review the ability to set up and adjust a simple computer system.

#### **2. Discuss and identify legal and ethical aspects of advanced software topics. (B)**

- a. Discuss Copyright laws pertaining to using software applications and Internet resources.
- b. Identify situations that are ethically questionable.

#### **3. Use advanced software techniques to produce specialized projects. (IT)**

- a. Establish project requirements.
- b. Determine a plan for project development.
- c. Apply advanced software techniques to produce a final project.

**ADVANCED SOFTWARE TOPICS, 11-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a-d	Teacher will demonstrate and review system startup procedures through the use of a projection device.	Observation
2	a-c	Teacher will use a PowerPoint presentation to inform students of various Copyright laws as they relate to the use of software applications. Teacher will then conduct a question and answer session.	Observation
3	a, b	Using presentation software and based on teacher criteria, students will plan and create a family tree using imported graphics, digital and downloaded images, video clips, animation, audio files, and other advanced techniques.	Rubric

## **BUSINESS LAW**

### **Grade Levels: 11-12**

Business Law provides the basic foundations of law as it relates to business. The origin of the law, ethics, the structure of the court systems, procedural and employment law, and legislation that applies real and personal property are all studied within this course. Business Law will equip the student with a working knowledge of the law as it is applied to various legal situations that are encountered in personal and business situations.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

- 1. Investigate the evolution of law and determine the need for laws. (B, C, CO, EP, EN, IB, M, MK)**
  - Distinguish between the limitations and powers of federal government as outlined by the Constitution.
  - Examine basic freedoms secured by the Bill of Rights and the Constitutional Amendments.
  - Analyze how courts make laws.
- 2. Distinguish between ethical and unethical conduct. (B, C, CO, EP, EN, IB, M, MK)**
  - Identify ethical/unethical characteristics and discuss consequences of unethical conduct.
  - Identify situations that might be ethically questionable.
- 3. Interpret structures of court systems. (B, C, CO, EP, EN, IB, M, MK)**
  - Categorize cases within the levels of court systems.
  - Analyze the role of various court systems.
  - Simulate court procedures.

**4. Differentiate between procedural and substantive law. (B, C, CO, EP, EN, IB, M, MK)**

- a. Discuss terms related to litigation.
- b. List/explain advantages and disadvantages of arbitration, mediation, and conciliation.
- c. Compare and contrast procedures in civil and criminal cases and describe the appellate process for each.
- d. Differentiate between tort and crime, give examples of each, and describe remedies/penalties available.

**5. Examine the principles of agency and employment law. (B, C, CO, EP, EN, IB, M, MK)**

- a. Discuss the rights and duties of employees and business owners.
- b. Analyze legislation that regulates employee rights, conditions, benefits, and testing (i.e., age in Discrimination in Employment Act, Fair Labor Standards Act, Worker's Compensation, Title VII).

**6. Distinguish between real and personal property. (B, C, CO, EP, EN, IB, M, MK)**

- a. Distinguish among real, personal, and intellectual property and fixtures, and explain why property distinctions are important.
- b. Analyze responsibilities of common carriers.
- c. Compare and contrast rights and responsibilities of landlords and tenants.

**BUSINESS LAW, 11-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Students will list what they consider to be their basic rights. Teacher will provide students with a copy of the Bill of Rights and have students compare their lists to the Bill of Rights to determine how many are covered in the Bill of Rights.	Checklist
1	c	Teacher will have students trace a law enacted in the past two years from its inception to the final implementation.	Observation
2	a, b	Teacher will distribute various situations and have students debate whether each situation is ethical or unethical and justify their positions.	Checklist
3	a, b	Students will prepare an organizational chart for the federal, state, and local court systems.	Rubric
3	a, b	Teacher will give students a list of cases and have them classify each case as to which court has jurisdiction.	Rubric
3	c	Students will conduct a mock trial using community resources (such as lawyers and judges).	Checklist
4	a-d	Teacher will organize a field trip to the local courthouse for students and observe a case. Students will write a two-page paper discussing their observations.	Rubric
5	a, b	Students will role-play various situations provided by teachers dealing with employment. Teacher will assign "jury" of peers to determine legality of role-play.	Teacher checklist/student checklist
6	a-c	Teacher will display a transparency of a lease. Student will classify the rights of tenants and landlords.	Observation

## **CERTIFIED ADVANCED NETWORKING PROGRAMMING (CAN) I-IV**

### **Grade Levels: 10-12**

The Certified Advanced Networking (CAN) I-IV program consists of four semesters. **The program is designed to teach students, by teachers trained in the CAN Program, the skills needed to design, build, and maintain small to medium-size networks.** This provides them with the opportunity to enter the workforce and/or further their education and training in the computer-networking field.

Mississippi has initiated a state rollout of a networking and router-based curriculum that will be provided to high school students within the state. The Certified Advanced Networking (CAN) I-IV courses are delivered over four semesters. Once students have completed the four semesters of networking and router configuration courses, the student can take a final test to receive an entry-level certification in networking. This web-based curriculum incorporates hands-on activities from pulling wire to advanced router configurations. Current and future Tech Crews are being trained in networking to offer technology support to districts. This course gives students added networking skills by building on their current knowledge base. Thus, students completing these courses will provide Mississippi with a trained resource pool of Information Technology (IT) professionals.

This course is designed to be a full-year, 1 credit course.

Prerequisites: None

#### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

#### **COMPETENCIES and Suggested Objective(s):**

##### **SEMESTER ONE**

1. Identify and describe the functions of each of the seven layers of the Open Systems Interconnection (OSI) reference model.
2. Describe data link and network addresses, and identify key differences between them.
3. Define and describe the function of a Media Access Control (MAC) address.
4. List the key internetworking functions of the OSI Network layer.

5. Identify at least three reasons why the industry uses a layered model.
6. Describe the two parts of network addressing. Then, identify the parts in specific protocol address examples.
7. Identify the functions of each layer of the International Standard Organization/Open Systems Interconnection (ISO/OSI) reference model.
8. Define and explain the five conversion steps of data encapsulation.
9. Describe the different classes of Internet Protocol (IP) addresses [and subnetting].
10. Identify the functions of the Transmission Control Protocol/Internet Protocol (TCP/IP) network-layer protocols.

## **SEMESTER TWO**

1. Examine router elements Random Access Memory, Read-Only Memory, Cisco Discovery Protocol (RAM, ROM, CDP, show).
2. Describe connection-oriented network service and connectionless network service, and identify their key differences.
3. Define flow control, and describe the three basic methods used in networking.
4. Identify the functions of the TCP/IP transport-layer protocols.
5. Manage configuration files from the privileged exec mode.
6. Identify the functions performed by Internet Control Message Protocol (ICMP).
7. Control router passwords, identification, and banner.
8. Identify the main Cisco IOS(tm) software commands for router startup.
9. Check an initial configuration using the setup command.
10. Log in to a router in both user and privileged modes.
11. Use the context-sensitive help facility.
12. Use the command history and editing features.
13. List the commands to load Cisco IOS software from: flash memory, a Trivial File Transfer Protocol (TFTP) server, or ROM.
14. Prepare to backup, upgrade, and load a backup Cisco IOS software image.
15. Identify the parts in specific protocol address examples.

16. List problems that each routing type encounters when dealing with topology changes, and describe techniques to reduce the number of these problems.
17. Configure IP addresses.
18. Verify IP addresses.
19. Prepare the initial configuration of your router and enable IP.
20. Add the Routing Information Protocol (RIP) routing protocol to your configuration.
21. Add the Interior Gateway Routing Protocol (IGRP) routing protocol to your configuration.
22. Configure standard access lists to figure IP traffic.
23. Monitor and verify selected access list operations on the router.
24. Configure extended access lists to filter IP traffic.
- 25.** Monitor and verify selected access list operations on the router.

### **SEMESTER THREE**

1. List the required IPX(tm) address and encapsulation type.
2. Configure IPX access lists and SAP filters to control basic Novell traffic.
3. Enable the Novell IPX protocol and configure interfaces.
4. Monitor Novell IPX operation on the router.
5. Describe the advantages of LAN segmentation.
6. Describe LAN segmentation using bridges.
7. Describe LAN segmentation using routers.
8. Describe LAN segmentation using switches.
9. Name and describe two switching methods.
10. Describe full- and half-duplex Ethernet operation.
11. Describe network congestion problem in Ethernet networks.
12. Describe the benefits of network segmentation with bridges.

13. Describe the benefits of network segmentation with routers.
14. Describe the benefits of network segmentation with switches.
15. Describe the features and benefits of Fast Ethernet.
16. Describe the guidelines and distance limitations of Fast Ethernet.
17. Distinguish between cut-through and store-and-forward LAN switching.
18. Describe the operation of the Spanning Tree Protocol (STP) and its benefits.
19. Describe the benefits of virtual LANs.

#### **SEMESTER FOUR**

1. Differentiate between the following WAN services: Link Access Protocol Balanced (LAPB), Frame Relay, Integrated Services Digital Network (ISDN/LAPD), High-Level Data Link Control (HDLC), Point-to-Point Protocol (PPP), and Dial-on-Demand Routing (DDR).
2. Recognize key Frame Relay terms and features.
3. List commands to configure Frame Relay Layer Management Interface (LMIs), maps, and subinterfaces.
4. List commands to monitor Frame Relay operation in the router.
5. Identify PPP operations to encapsulate WAN data on Cisco routers.
6. State a relevant use and context for ISDN networking.
7. Identify ISDN protocols, function groups, reference points, and channels.
8. Describe Cisco's implementation of ISDN Basic Rate Interface (BRI).

**CERTIFIED ADVANCED NETWORKING PROGRAMMING (CAN) I-IV, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
		<p>Information on strategies and assessment methods can be found in the materials that accompany the CAN teacher-training program.</p>	

## **COMMUNICATIONS IN BUSINESS**

### **Grade Levels: 9-12**

Communications in Business is designed to enable the student to communicate in a clear, concise, and correct manner on personal and professional levels. By incorporating critical-thinking, decision-making, and problem-solving skills into this course, the student is better able to communicate. Students will learn the importance of verbal and non-verbal communications. They will learn to write letters and participate in interviews. Proper business etiquette and human relation skills will be stressed. The course will help the individual student gain a vital skill that is needed in today's world.

This course is intended to be a one-semester, .5 credit course.

Prerequisites: None

#### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

#### **COMPETENCIES and Suggested Objective(s):**

##### **1. Develop a working knowledge of the foundations of oral and written communications, reading, and listening skills. (C, CO, IB, IT)**

- a. Differentiate between international, regional, and multi-cultural speech and non-verbal messages.
- b. Plan formal and informal presentations.
- c. Compose and format a variety of mailable business correspondence applying basic communication skills.
- a. Apply strategies for good listening skills.

##### **2. Apply basic social communication skills in personal and professional situations. (C, CO, IT)**

- a. Exhibit appropriate professional behavior in the workplace (such as time management skills, discrimination, conflict resolution).
- b. Demonstrate appropriate attire, grooming, etiquette, attitude, ethics, and leadership skills in the business environment.
- c. Differentiate between passive, assertive, and aggressive behaviors and demonstrate responses to each.

**3. Use technology to enhance the effectiveness of communications. (C, CO, IT)**

- a. Compare/contrast various kinds of electronic message technology.
- b. Demonstrate knowledge of legal and ethical aspects regarding electronically generated information.

**4. Apply various methods of communication in seeking employment. (C, CO, IB, IT)**

- a. Identify resources for employment opportunities.
- b. Compose and format an application letter, resume, and follow-up letter.
- c. Demonstrate proper procedures for an interview.
- d. Complete a job application form.
- e. Compile an employment portfolio (such as resume, awards, and sample of work).

**5. Incorporate appropriate techniques to communicate effectively in various business situations. (C, CO, IT)**

- a. Demonstrate the ability to deal with customers.
- b. Apply appropriate human relation skills in the workplace.
- c. Conduct meetings using parliamentary procedure.

**COMMUNICATIONS IN BUSINESS, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a	Teacher will display and discuss letters containing language biases. Teacher will have students identify additional letters for language bias.	Checklist/observation
1	b, d	Teacher will divide students into groups and have each plan/present a multimedia presentation. Teacher will have students prepare a written critique of each presentation.	Checklist
1	c	Teacher will have students prepare a letter of inquiry concerning a job in a foreign country.	Rubric
2	a-c	Students will develop skits concerning appropriate attire, grooming, etiquette, attitude, ethics, and leadership skills to perform in class.	Peer checklist
3	a, b	Teacher will arrange a field trip for students to observe the use of various kinds of communication technology available in local businesses. Students will submit written reports discussing their observations.	Rubric
4	a-e	Teacher will have students compile a personal portfolio that should include a letter, resume, job application, and follow-up letter for a fictitious company. Students will also role-play an interview for this company.	Checklist
5	a, b	Teacher will prepare various scenarios on customer situations and human relation situations on slips of paper, put them into a box, and have each student draw from the box. Students will then explain how they would deal with the situation.	Observation/checklist
5	c	Students will role-play a business meeting using the rules of parliamentary procedure.	Observation

## COMPUTATION IN BUSINESS

### Grade Levels: 9-12

Computation in Business is designed to help students improve proficiency in solving problems that are encountered in many business situations. Students will apply basic mathematical concepts to solve problems related to banking, such as reconciling bank statements, choosing the best type of savings account to receive the best interest rate, and completion of basic bank forms. Installment purchases will be discussed and compared with cash purchases, calculating the difference in the two types. Personal taxes, such as payroll and income tax, will be studied. The course provides a good basic foundation in mathematical business applications that are used on a day-to-day basis by all individuals.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Review and apply basic mathematical operations (A, CP, EP, IB, MK)

- a. Use appropriate mathematical operations to solve problems.
- b. Apply common international standards of measurement.
- c. Convert American dollar to currency of other countries.

#### 2. Apply mathematical operations to banking procedures. (A, C, CP, EP, IT, M)

- a. Demonstrate basic banking procedures.
- b. Reconcile a bank statement.

#### 3. Solve business problems relating to installment buying. (A, C, CP, EP, IT, M)

- a. Compute installment payments.
- b. Compare cash price and installment price.

**4. Identify and compute various taxes (A, C, CP, EP, IT, M)**

- a. Compute payroll taxes.
- b. Calculate personal income tax.
- c. Calculate sales tax.

**COMPUTATION IN BUSINESS, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a-c	Teacher will give students a worksheet with money values to be converted into various foreign denominations, and have them calculate the values accordingly.	Rubric
2	a, b	Teacher will have students complete a banking practice set (e.g., "The How and Why of Banking").	Graded practice set
3	a, b	Teacher will assign students the task of purchasing a car and have them research the model, cost, and determine the payments.	Rubric
4	a	Teacher will invite a tax consultant to discuss the importance of paying taxes. Teacher will give students a worksheet to calculate an individual's salary and taxes withheld.	Graded worksheet
14	b	Teacher will demonstrate and explain form 1040EZ. Teacher will have students calculate income tax and complete a 1040EZ given specific criteria ("Understanding Taxes" available from local IRS service).	Graded 1040EZ
4	c	Teacher will give students a worksheet to calculate sales tax on items found in a local grocery store.	Graded worksheet

## **COMPUTER APPLICATIONS**

### **Grade Levels: 9-12**

Computer Applications is designed to provide each student with essential introductory skills and knowledge necessary to use computer hardware and software in daily life and occupational tasks. The student will learn to use computer hardware and software to improve and enhance other curriculum areas. Emphasis is placed on common applications, including word processing, database management, spreadsheet, and presentation software.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Review basic operating skills for using computers. (C, IT)**

- a. Review the functions of the basic components of a computer system.
- b. Review terminology associated with computers.
- c. Review the precautions and care related to the proper use of computers and accessories.
- d. Review the ability to set up and adjust a simple computer system.

#### **2. Develop basic skills associated with word processing applications. (C, CO, IT)**

- a. Demonstrate the use of basic word processing commands.
- b. Demonstrate basic text formatting, editing/proofing, storage and retrieval procedures.
- c. Demonstrate the ability to produce a memo.
- d. Demonstrate the ability to produce a business letter.
- e. Demonstrate the ability to produce a multi-page report.

#### **3. Develop basic skills associated with database management applications. (C, CO, CP, IT, M)**

- a. Identify terminology used with database management applications.
- b. Design, create, and save a database file.

- c. Retrieve and manipulate data within a database file.
- d. Generate and print a report from a database file.

**4. Develop basic skills associated with spreadsheet applications. (C, CO, CP, IT, M)**

- a. Identify terminology used with spreadsheet applications.
- b. Demonstrate the use of basic spreadsheet format commands.
- c. Write formulas using basic arithmetic operations.
- d. Demonstrate the use of basic spreadsheet functions.
- e. Develop, enter, and modify data; save to disk, exit the program; retrieve a spreadsheet; and print a hard copy of a simple spreadsheet file.

**5. Develop basic skills associated with presentation applications. (C, CO, IT, M)**

- a. Identify terminology used with presentation applications.
- b. Demonstrate the use of basic presentation format commands.
- c. Demonstrate the use of basic presentation functions.
- d. Develop, enter, and modify data; save to disk, exit the program, and retrieve a presentation; and print a hard copy of a simple presentation file.

**COMPUTER APPLICATIONS, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a, b	Teacher will review the different components of a computer system.	Observation
1	c, d	Teacher will demonstrate the proper procedure for adjusting controls, and loading paper into the printer, etc.	Observation/checklist
2	a-e	Teacher will demonstrate proper format for word processing documents. Students will prepare various documents, applying word processing techniques.	Checklist
3	a-d	Students will design, create, save, and print database files from teacher-supplied information.	Checklist
4	a-e	Students will work in pairs to set up a spreadsheet. They will practice entering, modifying, saving and printing the data in a spreadsheet. Students will exchange places and critique each other's work.	Checklist
5	a-d	Students will work in pairs to create a presentation. They will practice entering, modifying, saving and printing the presentation. Students will exchange places and critique each other's work. Students will present their work to the class.	Rubric

## **PRINCIPLES OF COMPUTER AIDED DRAFTING (CAD)**

### **Grade Levels: 11-12**

Principles of Computer Aided Drafting (CAD) will introduce students to basic drafting and design skills on a CAD system. This course is designed for students interested in engineering, technical or architectural career fields.

This course is designed to be a one-semester course, .5 credit course.

Prerequisites: Students must have completed or be currently enrolled in Geometry.

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Access information services including electronic mail and the Internet. (C,CO, EN, IT, IB)**

- a. Set up (e.g., environment, address book, signatures) and use an electronic mail (e-mail) system.
- b. Use the Internet to research and gather data on teacher-assigned topics.

#### **2. Demonstrate the ability to use the basic hardware of the CAD system. (C, IT)**

- a. Input data using keyboard and mouse.
- b. Access files and/or symbols from the hard disk.
- c. Store, retrieve, copy, and delete drawings and files.

#### **3. Demonstrate the ability to perform drafting functions on the CAD system. (C, EN, IT)**

- a. Construct a single view drawing.
- b. Modify/edit an existing drawing.
- c. Modify the properties of AutoCAD entities and use the Design Center to insert
- d. Objects from other drawings into a current drawing.
- e. Insert text in drawings.

**PRINCIPLES OF CAD, 11-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Students will post and reply to a discussion board and e-mail all course participants.	Rubric
1	b	Students will interview a person in an engineering-related career field. Students will research job qualifications, salary, job availability, and will summarize results in a final presentation.	Rubric
2	a-c	Students will create and save drawings on their <a href="#">A:</a> and <a href="#">C:</a> drives, then e-mail to instructor.	Rubric
3	a, b	Students will insert and modify objects from other drawings into a current drawing.	Rubric
3	c	Students will add layers and text styles to new drawings using the Design Center in the CAD software. Students will open a prototype drawing through the Design Center and drag/drop layers and text styles into a new drawing.	Rubric
3	d	Students will create a title block including text.	Rubric

## COMPUTER ENGINEERING I

### Grade Levels: 10-12

This course introduces the essential hardware competencies for an entry-level PC service technician. This course focuses on the CompTIA A+ Core Hardware exam objectives. Students will demonstrate basic knowledge of installing, configuring, upgrading, troubleshooting, and repairing microcomputer systems. The work-based strategy appropriate for this course is job shadowing. Hands-on experiences and SkillsUSA-VICA leadership activities provide many opportunities to enhance classroom instruction and career development. This course is based on the ExplorNet materials. **Teachers must be trained using ExplorNet materials.**

This course is designed to be a full-year, 1 credit course.

Prerequisites: Algebra I; Keyboarding and Computer Applications or 8th Grade Computer Discovery

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Demonstrate basic business meeting skills and goal setting. (C, CO, IT, M)

- Demonstrate problem-solving techniques that get consensus.
- Establish personal and organizational goals.

#### 2. Demonstrate installing, configuring, and upgrading a system. (IT)

- Identify the names, purpose, and characteristics of system modules.
- Apply basic procedures for adding and removing field replaceable modules for desktop and portable systems.
- Apply procedures for altering Interrupt Requests (IRQ's), Direct Memory Access (DMA's), and Input/Output (I/O) addresses when installing and configuring devices.
- Identify the names, purposes, and performance characteristics of standardized/common peripheral ports, associated cabling, and their connectors.
- Identify proper procedures for installing and configuring common Integrated Drive Electronics (IDE), Small Computer System Interface (SCSI), and peripheral devices.
- Explain procedures to optimize Personal Computer (PC) operations in specific situations.
- Recognize the issues that must be considered when upgrading a PC.

**3. Demonstrate diagnosing and troubleshooting a system. (IT)**

- a. Recognize common problems associated with each module and their symptoms, and identify steps to isolate and troubleshoot the problems.
- b. Describe basic troubleshooting procedures and tools, and how to elicit problem symptoms from customers.

**4. Demonstrate the various types of preventive maintenance measures, products and procedures. (IT)**

- a. Demonstrate various safety measures and procedures.
- b. Demonstrate environmental protection measures and procedures.

**5. Distinguish between the motherboard, processor, and memory components. (IT)**

- a. Distinguish between popular Central Processing Unit (CPU) chips in terms of their basic characteristics.
- b. Identify the types of RAM (Random Access Memory), form factors, and operational characteristics.
- c. Identify the most popular type of motherboards, their components, and their architecture (for example, bus structures and power supplies).
- d. Explain the purpose of CMOS (Complementary Metal-Oxide Semiconductor) memory, what it contains, and how and when to change its parameters.

**6. Identify printer technologies, interfaces and options/upgrades. (IT)**

- a. Recognize common printer problems and techniques used to resolve them.

**7. Identify the common types of network cables, their characteristics and connectors. (IT)**

- a. Identify basic networking concepts including how a network works.
- b. Identify common technologies available for establishing Internet connectivity and their characteristics.

**COMPUTER ENGINEERING I, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
		<p>Information on strategies and assessment methods is found in materials that accompany the ExplorNet teacher-training program.</p>	

## COMPUTER ENGINEERING II

### Grade Levels: 11-12

This course introduces the essential operating systems competencies for an entry-level PC service technician. This course focuses on the CompTIA A+ Operating System Technologies exam objectives. Students will demonstrate advanced knowledge of installing, configuring, upgrading, troubleshooting, and repairing operating systems. Work-based strategies appropriate for this course are job shadowing, internship, cooperative education, and apprenticeship. Hands-on experiences and SkillsUSA-VICA leadership activities provide many opportunities to enhance classroom instruction and career development. This course is based on ExplorNet materials. **Teachers must be trained using ExplorNet materials.**

This course is designed to be a full-year, 1 credit course.

Prerequisites: Computer Engineering I

#### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

#### COMPETENCIES and Suggested Objective(s):

##### 1. Demonstrate communication, problem solving, and team-building skills. (C, CO, CP, EP, EN, IT, IB, M, MK)

- a. Demonstrate listening more carefully and more responsively.
- b. Demonstrate goal congruence.

##### 2. Explain the operating system fundamentals. (C, CO, CP, EP, EN, IT, IB, M, MK)

- a. Identify the major desktop components and interfaces, and their functions.
- b. Identify the names, locations, purposes, and contents of major system files.
- c. Demonstrate the ability to use command-line functions and utilities to manage the operating system, including the syntax and switches.
- d. Demonstrate basic concepts and procedures for creating, viewing, and managing disks, directories and files including procedures for changing file attributes and the ramifications of those changes, (e.g., security issues).
- e. Explain the major operating system utilities, their purpose, location, and available switches.

**3. Demonstrate the installation, configuration, and upgrading of operating systems. (C, CO, CP, IT, M)**

- a. Demonstrate the procedures for installing Windows NT 4.0 Workstation, Windows 2000 Professional and Windows XP, and bringing the operating system to a basic operational level.
- b. Demonstrate steps to perform an operating system upgrade from Windows NT 4.0 Workstation, Windows 2000 Professional, and Windows XP.
- c. Determine the basic system boot sequences and boot methods, including the steps to create an emergency boot disk with utilities installed for Windows NT 4.0 Workstation, Windows 2000 Professional, and Windows XP.
- d. Apply procedures for installing/adding a device, including loading, adding, and configuring device drivers, and required software.
- e. Apply procedures necessary to optimize the operating system and major operating system subsystems.

**4. Evaluate diagnosing and troubleshooting methods. (C, CO, IT, M, MK)**

- a. Analyze and interpret the meaning of common error codes and startup messages from the boot sequence, and identify steps to correct the problems.
- b. Determine when to use common diagnostic utilities and tools.
- c. Examine common operational and usability problems and determine how to resolve them.

**5. Explore network designs. (C, CO, IT, M)**

- a. Identify the networking capabilities of Windows and given configuration parameters, configure the operating system to connect to a network.
- b. Explain the basic Internet protocols and terminologies and procedures for establishing Internet connectivity.

**COMPUTER ENGINEERING II, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
		<p>Information on strategies and assessment methods is found in materials that accompany the ExplorNet teacher-training program.</p>	

## **DESKTOP PUBLISHING I**

### **Grade Levels: 9-12**

Desktop Publishing I offers students the opportunity to use keyboarding and word processing skills in the production of attractive documents such as flyers, letterheads, business cards, report covers, and newsletters. Graphic design and page layout techniques are emphasized. Students will produce attractive documents that effectively use and display proper desktop publishing strategies.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Demonstrate an understanding of desktop publishing concepts. (C, IT)**

- a. Identify and discuss desktop publishing terms.
- b. Evaluate and use appropriate hardware, software, and operating systems for desktop publishing.

#### **2. Demonstrate proficiency in importing, formatting, and positioning text. (C, IT)**

- a. Import text files using manual, semi-autoflow, and autoflow options.
- b. Modify text font, size, leading, and alignment within a project.

#### **3. Demonstrate proficiency in the use of graphic images. (C, CO, IT)**

- a. Import clip art into desktop publishing documents.
- b. Scan photos and graphic images, save, and insert into desktop publishing documents.
- c. Modify graphic images using image-editing software, such as Paint, Adobe Photoshop or Fireworks, and insert into desktop publishing document.

#### **4. Demonstrate the ability to apply desktop publishing concepts. (C, CO, IT)**

- a. Create a page layout.

- b. Use text tools to create, insert, delete, replace, modify, and move text.
- c. Manipulate graphics by moving, cropping, sizing, deleting, scaling, and rotating.
- d. Import graphics and text.
- e. Use drawing tools to create lines, circles, ovals, rectangles, and shadowed boxes.
- f. Enhance text using assorted fonts, font styles, and sizes.

**5. Produce attractive desktop published documents and projects. (C, CO, IT, MK)**

- a. Produce a variety of teacher-selected single- and multiple-column desktop published documents (e.g., flyer, letterhead, business card, report cover, and newsletter).
- b. Select and design a multi-page desktop published project containing text and graphics.

**6. Demonstrate and apply knowledge of legal and ethical aspects associated with desktop publishing. (B, C, CO, EN, M, MK, IT)**

- a. Develop awareness of Copyright laws pertaining to importing images and text files into desktop published documents.
- b. Identify situations that are ethically questionable.

**DESKTOP PUBLISHING I, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will discuss and define the following suggested desktop publishing terms: page orientation, portrait/landscape, ruler, tool box, font, leading, kerning, clipboard, crossbar, gutter, graphics, cropping, scaling, WYSISWYG (What you see is what you get), masthead, white space, Copyright, import, etc.	Test
1	b	Teacher will discuss advantages/disadvantages of printer types (laser, dot matrix, bubble jet) appropriate for desktop publishing applications.	Observation
2	a, b	Students will import text from a data file (already created) into a document and use various text formatting options to enhance the text.	Checklists
3	a	If Internet connections are available for each student, teacher will have students download and save graphics from teacher-approved web sites. Students will then use these graphics within a desktop publishing document or project.	Observation/checklist/portfolio
3	b	Students will bring pictures of themselves, their family, friends, siblings, pets, etc., scan and save. Students will create a booklet detailing their lives from birth to this year.	Rubric
3	c	Using photo-enhancing software, students will load an image, modify it according to teacher instructions, and insert it into a desktop publishing project.	Rubric

**DESKTOP PUBLISHING I, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	a	Students will select desired page size for a publication, set specified margins, and set specified number of columns.	Checklist
4	b	Teacher will illustrate, using a data image projector, how to create a text box, enter text, insert text from a file, and modify the text.	Observation
4	c-f	Students will create a coloring book by importing graphic images, removing the color, and inserting the graphics into a document. Students will also use drawing tools to create lines, circles, etc., to enhance pages within the book. They will create a front and back cover, importing graphics and using font enhancements.	Rubric
5	a, b	Students will create the following documents for a fictitious company: a business card, a letterhead, and a tri-fold brochure promoting the new business.	Rubric
6	a, b	Students will research Copyright laws related to importing images and text files. They will debate ethically questionable situations supplied by the teacher.	Checklist

## **DESKTOP PUBLISHING II**

### **Grade Levels: 10-12**

Desktop Publishing II is designed to provide additional training in Desktop Publishing I concepts. The students will develop the skills needed to use information tools such as Internet, CD-ROM, etc., to produce original projects using advanced skills. Although creative research methodologies are part of the course design, unrestricted browsing of the Internet is not allowed.

This course is intended to be a one-semester, .5 credit course.

Prerequisites: Desktop Publishing I

#### **CONTENT STRANDS:**

- |                             |                             |  |
|-----------------------------|-----------------------------|--|
| (A-Accounting)              | (B-Business Law)            | (C-Career Development)                 |
| (CO-Communication)          | (CP-Computation)            | (EP-Economics and<br>Personal Finance) |
| (EN-Entrepreneurship)       | (IT-Information Technology) |  |
| (IB-International Business) | (M-Management)              | (MK-Marketing)                         |

#### **COMPETENCIES and Suggested Objective(s):**

##### **1. Review software and peripheral devices. (C, IT)**

- a. Identify desktop publishing terms (document setup, page orientation, ruler, tool box, font, leading, kerning, etc.).
- b. Identify peripherals. (e.g., color printer, laser printers, scanner, digital camera, digital camcorders, and CD burners).
- c. Demonstrate use of various peripheral devices.

##### **2. Review how to download, save, and apply graphic images to projects. (C, IB, IT)**

- a. Discuss graphic file types (.jpeg, .gif, .tiff, .png, etc.)
- b. Download and save images or copy and paste images.
- c. Use CD images to produce projects.
- d. Modify graphic images using additional software (Adobe Photoshop, Fireworks, etc.) learned in Desktop Publishing and insert into desktop projects.
- e. Scan photos and graphic images, save, enhance with additional software, and insert into desktop projects.

##### **3. Use advanced desktop publishing techniques to produce projects. (B, C, IT)**

- a. Establish project requirements.

- b. Apply software techniques to produce a final project.
- c. Use peripheral devices to enhance projects.

**4. Discuss and identify legal and ethical aspects of desktop publishing. (C, IT)**

- a. Research and discuss Copyright laws pertaining to software.
- b. Demonstrate knowledge of legal and ethical issues associated with the use of the Internet.

DESKTOP PUBLISHING II, 11-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments																
1	a-c	Teacher will demonstrate use of scanner and the procedure for saving image files to student's personal directories.	Observation																
2	a-e	Students will select and research a state. Students will then prepare a tri-fold according to teacher-assigned criteria.	Rubric																
3	a-c	Teacher will provide students with a fictitious mail order business, including the business address, products they specialize and sell, phone number, etc. Students will be directed to design an entire direct mail promotion for the company. The direct mail promotion will include an envelope, tri-fold brochure, flyer insert, and an order form.	Rubric (See Sample)																
4	a, b	Students will research various Copyright policies of established companies and use findings to prepare a policy manual for a new company.	Rubric																
		<b>Sample Rubric- Components</b>																	
		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;"><i>digital image (1)</i></td> <td style="text-align: right;"><i>6 of 6 =</i></td> </tr> <tr> <td style="padding-left: 20px;"><i>100</i></td> <td></td> </tr> <tr> <td style="padding-left: 20px;"><i>scanned image (1)</i></td> <td style="text-align: right;"><i>5 of 6 = 94</i></td> </tr> <tr> <td style="padding-left: 20px;"><i>downloaded image (1)</i></td> <td style="text-align: right;"><i>4 of 6 = 90</i></td> </tr> <tr> <td style="padding-left: 20px;"><i>formatting enhancement (1)</i></td> <td style="text-align: right;"><i>3 of 6 = 80</i></td> </tr> <tr> <td style="padding-left: 20px;"><i>overall visual appearance of project (1)</i></td> <td style="text-align: right;"><i>2 of 6 = 70</i></td> </tr> <tr> <td style="padding-left: 20px;"><i>researched and assimilated content-mandatory (1)</i></td> <td style="text-align: right;"><i>1 of 6 = 65</i></td> </tr> <tr> <td></td> <td style="text-align: right;"><i>0 of 6 = 50</i></td> </tr> </table>	<i>digital image (1)</i>	<i>6 of 6 =</i>	<i>100</i>		<i>scanned image (1)</i>	<i>5 of 6 = 94</i>	<i>downloaded image (1)</i>	<i>4 of 6 = 90</i>	<i>formatting enhancement (1)</i>	<i>3 of 6 = 80</i>	<i>overall visual appearance of project (1)</i>	<i>2 of 6 = 70</i>	<i>researched and assimilated content-mandatory (1)</i>	<i>1 of 6 = 65</i>		<i>0 of 6 = 50</i>	
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	<i>0 of 6 = 50</i>																		
		<p><i>Note: Some components are weighted due to the importance of the skill being measured. If students attempt the project, but are unsuccessful in following directions to include all components, then the student will be given a 50 for attempting to complete the project. The thought process behind the bottom score of 50 points is to give the student at least points for effort, thus enabling the student to pull up the average in future assignments.</i></p>																	

## DIGITAL MEDIA DESIGN

### Grade Levels: 9-12

Digital Media Design is designed to introduce students to various forms of digital media. Students will learn to use software to develop graphics, animation, 3-Dimensional images, and interactive media projects.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or Computer Discovery

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Discuss graphic software and procedures for creating graphics. (IT)

- Identify various graphic software programs.
- Discuss procedure for creating simple bitmap and vector graphics.
- Discuss advanced features of the graphic software, including 3-D graphics.

#### 2. Discuss animation software and procedures for creating animation. (IT)

- Discuss various software programs that create animation.
- Discuss advanced features of the animation software.

#### 3. Discuss software, such as Hyperstudio and Authorware, used for creating interactive media projects. (IT)

- Identify and discuss various software program features used in creating interactive projects.
- Discuss design considerations for creating interactive projects.

#### 4. Discuss requirements and procedures for recording and/or editing audio. (IT)

- Discuss hardware, software, and accessories needed for recording and editing audio.
- Identify the process for exporting audio to a format that can be used in other programs.

**5. Discuss requirements and procedures for recording and/or editing video. (IT)**

- a. Discuss hardware, software, and accessories needed for recording and editing video.
- b. Discuss exporting video to a format that can be used in other programs.

**6. Research legal aspects involved in using both original material and that obtained from an outside source. (B, IT)**

- a. Identify the reasons for creating/obtaining a waiver for those participants being recorded.

**7. Develop and present an interactive media project on an assigned topic. (C, CO, IT)**

- a. Develop an interactive media project that incorporates bitmap images, vector images, 3-D images, audio, and video.

**DIGITAL MEDIA DESIGN, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will discuss the differences and similarities between various graphics programs.	Observation
1	b	Teacher will demonstrate techniques for creating a simple picture of a house in vector-and bitmap-based programs. Students will create his/her own picture.	Rubric
1	c	Teacher will demonstrate advanced features of graphics software. Students will complete activities on each feature discussed in class.	Rubric
2	a	Teacher will discuss the differences and similarities between various animation programs.	Observation
2	b	Teacher will demonstrate advanced features in the animation software. Students will complete activities on each feature discussed in class.	Rubric
3	a	Teacher will discuss various programs used to create interactive media projects.	Class participation
3	b	Teacher will discuss design rules for interactive projects. Afterwards, the student will critique a set of teacher-provided examples on the rules.	Class participation
4	a	Students will use the Internet to research the necessary hardware and software for audio production. Afterwards, they will use the Internet to find pricing information on the necessary items. Students will use their findings to create a detailed list of items, prices, and vendors in a word processor.	Printed list
4	b	Students will export a previously assigned audio project to various formats. He/she will then evaluate the file size and sound quality of each to determine which would be the better choice for a given situation (e.g., published on the	Observation
5	a	Internet vs. CD). Findings will be discussed in class. Students will use the Internet to research the necessary hardware and software for video production. Afterwards they will use the Internet to find pricing information on the	Printed lists

**DIGITAL MEDIA DESIGN, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
5	b	<p>necessary items. Students will use their findings to create a detailed list of items, prices, and vendors in a word processor.</p> <p>Teacher will discuss common video formats. Students will review teacher-provided web sites to determine the advantages and disadvantages of the formats mentioned in class. Students will also research what software is needed for someone to view each format. Students will use his/her findings to create a "Video Formats Guide."</p>	Rubric
6	a	<p>Students will use the Internet and information gained to develop a waiver for participants being recorded for video and/or audio projects.</p>	Rubric
7	a	<p>Students will develop interactive multimedia projects on an assigned topic.</p>	Rubric

## **DIGITAL PHOTOGRAPHY**

### **Grade Levels: 9-12**

Digital Photography introduces photography and technology skills. The purpose of the course is to enable students to develop the skills of photography through a digital medium. Students learn the basic functions of a digital camera, scanner, digital image manipulation, and photography composition.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Demonstrate knowledge of the care and basic operation of select technological equipment. (IT)**

- a. Apply techniques for use and care of digital camera equipment.
- b. Apply techniques for use and care of computer equipment.

#### **2. Identify and demonstrate rules of photo composition. (IT)**

- a. Define and discuss photo-composition.
- b. Apply rules of composition in photo projects/assignments.

#### **3. Identify and demonstrate lighting rules. (IT)**

- a. Discuss the importance of lighting in digital photography.
- b. Apply lighting rules to photo projects/assignments.

#### **4. Identify and demonstrate knowledge of advanced digital camera features and settings. (IT)**

- a. Apply knowledge in customizing digital camera settings and features.
- c. Identify accessories that improve the features/functionality of the digital camera.

**5. Identify techniques for managing digital camera content and manipulating imported photos. (IT)**

- a. Identify software for managing digital camera content.
- b. Discuss photo-editing software and apply its features.

**6. Identify features to consider when purchasing a digital camera. (IT)**

- a. Discuss current industry standards for digital cameras.
- b. Evaluate specific digital camera models.

**7. Identify educational and career options in digital photography. (C, IT)**

- a. Research photography post-secondary programs.
- b. Research career options in digital photography.

**DIGITAL PHOTOGRAPHY, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a	Teacher will discuss camera care with the students. Students will demonstrate each rule discussed.	Rubric
1	b	Teacher will discuss computer care with the students. Students will demonstrate each rule discussed.	Rubric
2	a	Teacher will define and identify the rules of photo-composition.	Observation
2	b	Students will evaluate a set of photos to determine which follow the photo-composition rules.	Observation
3	a	The teacher will provide examples of photos that demonstrate poor and ideal use of lighting.	Observation
3	b	Students will take multiple photos that demonstrate an ideal use of lighting.	Rubric
4	a, b	Students will use the Internet to research accessories that are available for their assigned camera. Findings will be discussed in class.	Rubric
5	a, b	Teacher will demonstrate software that manages the pictures stored on the camera. Students will repeat these steps.	Rubric
6	a	Teacher will discuss how digital cameras features compare with current industry standards.	Observation
6	b	Students will evaluate cameras listed on a teacher-provided handout. Students will use the Internet to view the specifications for the cameras. Findings will be discussed in class.	Rubric
7	a, b	Teacher will discuss programs available through various colleges and universities. Students will use the Internet to research career options for digital photographers. Students will create a flier that discusses three fields that are ideal for them.	Observation

## **DIGITAL VIDEO**

### **Grade Levels: 9-12**

Digital Video is designed to introduce students to the video production process. Concepts taught will include creating, editing, and exporting audio and video. Students will also learn about creating waivers and the laws related to Copyright.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Demonstrate knowledge of the care and operation of a digital camcorder. (IT)**

- a. Apply techniques for care and use of a digital camcorder.

#### **2. Identify equipment and software needed to create a video. (IT)**

- a. Identify requirements for filming, importing, editing, and producing video.
- b. Identify extra equipment and software that would simplify or enhance video production.

#### **3. Develop an understanding of the techniques for obtaining the highest quality footage. (IT)**

- a. Identify and discuss lighting considerations.
- b. Identify and discuss camera considerations.
- c. Identify and discuss composition considerations.

#### **4. Identify video editing software operations. (IT)**

- a. Demonstrate proficiency in using video editing software.
- b. Compare and contrast the features of various video editing applications.

#### **5. Use software to convert video to various formats. (IT)**

- a. Compare the advantages and disadvantages of various video formats (e.g., Moving Pictures Experts Group (MPEG), QuickTime, Real, etc.).
- b. Demonstrate an understanding of the conversion process.

**6. Discuss hardware and software needed for working with audio. (IT)**

- a. Discuss requirements for recording and editing audio.
- b. Identify extra equipment and software that would simplify or enhance audio editing.

**7. Identify/discuss common audio formats and techniques for working with audio. (IT)**

- a. Compare and contrast audio formats.
- b. Identify techniques for recording and editing audio.
- c. Identify process for exporting audio to common formats.

**8. Research legal concerns for media production. (B, C, IT)**

- a. Research the reasons for creating a waiver for those participants being recorded.

**DIGITAL VIDEO, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will demonstrate the use of basic camcorder features. Students will use the camera to record video of objects that begin with each letter of the alphabet.	Rubric
2 6	a a	Students will use the Internet to research the necessary hardware and software for video production. Afterwards, they will use the Internet to find pricing information on the necessary items. Students will use their findings to create a detailed list of items, prices, and vendors in a word processing document.	Rubric
2 6	b b	Students will evaluate the list he/she and the other students made for 2a and 6a. Afterwards, he/she will develop two separate lists – one showing required items and the other list showing items that simplify or enhance the process, but are not required. Both lists should contain descriptions, pricing, and vendor information.	Checklist
3	a-c	Teacher will discuss techniques for obtaining the best footage. Students will analyze footage taken by the teacher to determine which shots are good and which could be improved. When identifying a need for improvement, they will state what is wrong with the shot and how it could be improved. Their analysis will be typed in a word processing document.	Rubric
4	a	Students will create a short movie on an assigned topic.	Rubric
4	b	Students will use the Internet to research leading video editing software packages. In a written report, students will identify the leading packages. He/she will also compare and contrast the packages.	Rubric
5	a	Teacher will discuss common video formats. Students will review teacher-provided web sites to determine the advantages and disadvantages of the formats mentioned in class. Students will also research what software is needed for viewing each format. Students will use his/her findings to create a "Video Formats Guide."	Rubric
5	b	Students will export a previously assigned video project to various formats. He/she will then evaluate the file size and video quality of each to determine which would be the better choice for a given situation (e.g., published on the	Observation

**DIGITAL VIDEO, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
7	a, b	<p>Internet vs. CD). Findings will be discussed in class.</p> <p>Teacher will discuss common audio formats. Students will review teacher-provided web sites to determine the advantages and disadvantages of the formats mentioned in class. Students will also research what is software needed for someone to listen to each format. Student will use his/her findings to create an "Audio Formats Guide."</p>	Rubric
7	b	<p>Students will use audio equipment and software to create an original fictitious radio newscast.</p>	Rubric
7	c	<p>Students will export a previously assigned audio project to various formats. He/she will then evaluate the file size and sound quality of each to determine which would be the better choice for a given situation (e.g., published on the Internet vs. CD). Findings will be discussed in class.</p>	Rubric
8	a	<p>Students will research, using the Internet, a way to create a waiver for participants being recorded for video and/or audio projects.</p>	Rubric

## ENTREPRENEURSHIP

### Grade Levels: 9-12

Entrepreneurship is designed to equip students with introductory skills, which help prepare them to organize and run a business. Business terminology, basic entrepreneurship concepts, and fundamental operating principles are emphasized. Through this course, students are involved with activities such as developing market plans and applying global economic concepts. They will analyze supply and demand and understand how it affects price and profit. They will also learn to calculate operational expenses in determining profit. Finally, they will be exposed to ethical problems related to the workplace and discuss solutions for some of these problems.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Identify characteristics of a successful entrepreneurship. (C, CO, EN, IB, M, MK)

- a. Identify traits that are typical characteristics of a successful entrepreneur.

#### 2. Develop a marketing plan by applying economic concepts for a legitimate business. (C, CO, CP, EP, EN, IB, M, MK)

- a. Determine ways to increase markets.
- b. Explain the effects of market supply and demand.
- c. Explain the methods used to determine the financial value of an existing business.

#### 3. Apply economic concepts in an entrepreneurial venture; analyze customer groups and develop a plan to identify, reach, and keep customers in a specific target market. (A, B, C, CO, CP, EP, EN, IB, M, MK)

- a. Explain the feasibility of starting a home-based or Internet-based business.
- b. Plan the startup, operational expenses, cash reserves, and funding needed to start a business.
- c. Compare and contrast records that should be kept by a business.

**4. Develop a management plan for an international entrepreneurial venture. (A, B, C, CO, CP, EP, EN, IB, M, MK)**

- a. Identify the advantages and disadvantages of starting a business on the Internet.
- b. Describe how the Internet and other emerging technologies have impacted the components of marketing (e.g., product, place, price, and promotion).
- c. Describe the layout and facilities needed for a planned business.
- d. Assess the costs of renovating or improving a site for a planned business.

**5. Analyze the advantages and disadvantages of possible locations for a planned business. (B, CO, EN, EP, IT, M, MK)**

- a. Develop strategies for implementing the plan for a specific business (hiring, motivation, leadership, delegation, goal setting, and monitoring achievement).
- b. Establish a profit goal for a planned business.
- c. Identify if there is a profit or loss for a business.

**6. Describe how an entrepreneurial venture can be affected by cultural differences. (A, B, C, CO, CP, EP, EN, IB, M, MK)**

- a. Explain the changes American businesses must make to interact in a global marketplace.
- b. Identify forms of financial assistance, as well as financial export assistance programs offered by U. S. government agencies and investment corporations.
- c. Explain the effect government regulations have on international trade.

**7. Describe how the legal system affects a business. (A, B, C, CO, CP, EP, EN, IB, M, MK)**

- a. Compare and contrast the different forms of business ownership and careers in business ownership.
- b. Define and give examples of a franchise and discuss the advantages/ disadvantages of owning a franchise.
- c. Describe special types of business ownership (i.e., Type S and cooperative).
- d. Discuss ways government regulations affect owning/operating a business.
- e. Distinguish between personal and business ethics in operating a small business.

**ENTREPRENEURSHIP, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Students will create posters or write papers showing characteristics of a successful entrepreneur.	Rubric
2	a-c	Students will select a legitimate product (e.g. tennis shoes, jeans, books) and survey 20 different people to determine the demand.	Rubric
3	a-c	Teacher will divide students into two groups. Each group will prepare a report detailing start-up funding needed for a fictitious business and listing sources for funding.	Checklist
4	a-d	Students will choose a product and prepare a plan to market that product internationally.	Rubric
5	a-c	Teacher will give the students criteria for a new business locating in the community. Students will research the surrounding area to determine the best location for the business. Based on the company's present profit goals, student teams will evaluate other team choices and determine if the new location would lead to a profit or loss.	Rubric
6	a-c	Teacher will divide students into four groups. Each group will be given the name of a business in a different country. Groups will research the Internet.	Rubric
7	a, c	Students will survey the urban and rural business community to compile a report on and contrast the different forms of business ownership and careers in business ownership.	Rubric
7	b	Students will participate in a forum to discuss the pros and cons of investing in a franchise.	Rubric
7	d, e	A business entrepreneur will visit the class to discuss ways government regulations affect owning/operating a business and basic business ethics.	Observation

## FINANCIAL TECHNOLOGY

### Grade Levels: 9-12

Financial Technology allows the student to explore financial decision-making. It also helps each student utilize skills in money management, banking and tax planning. The course will accomplish this through the use of technological resources. Activities will include developing consumer skills, budgeting, comparison shopping, and securing credit.

This course is designed to be a one semester, .5 credit course.

Prerequisites: 8th Grade Computer Discovery or Keyboarding

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Develop consumer skills through the use of technology. (C, CO, IT, EP)

- a. Identify steps in a purchase decision while developing comparison shopping skills.
- b. Identify consumer protection and assistance agencies.
- c. Examine impact of advertising and marketing on consumer decision-making.
- d. Identify advantages and disadvantages of shopping online.

#### 2. Using technology, (e.g., application software, Internet) apply budgeting techniques that involve transportation, housing, insurance, and leisure expenses. (C, CO, CP, EP, IT, M)

- a. Research the purchase of a vehicle, including taxes, maintenance, and other incidental costs.
- b. Compare the advantages and disadvantages of home ownership versus renting.
- c. Research the process of renting an apartment, including analyzing a contract and estimating moving costs, installation charges, and maintenance.
- d. Discuss types of insurance.
- e. Develop a budget for expenses (e.g., vacation, entertainment).

**3. Describe banking services and use application/software to prepare related documents. (A, CO, EN, EP, IT)**

- a. Describe services provided by banks and online banking.
- b. Using appropriate software, prepare appropriate documents such as checks, register, deposits, and reconciliation forms.

**4. Explore the advantages and disadvantages involved in securing credit. (A, CO, EP)**

- a. Explore various methods of financing a purchase.
- b. Compare terms and conditions required by credit sources.
- c. Explore and discuss consequences of overdrafts and debit card abuse.
- d. Examine and discuss credit rating, credit applications, credit problems, and bankruptcy.

**5. Using software applications, Internet, and/or simulations, explore income tax functions. (A, CO, CP, EP, IT, M)**

- a. Identify types of taxes.
- b. Explore potential tax deductions and credits.
- c. Complete tax forms.

**6. Discuss legal and ethical aspects associated with personal finance. (C, CO, CP, EP, IT, M)**

- a. Discuss software licensing.
- b. Discuss online security.

**FINANCIAL TECHNOLOGY, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a-d	<p>Have students divide into groups and locate a minimum of five advertisements on the Internet. Have groups critique ads and revise them to influence consumer decision-making. Present revised advertisements to the class.</p>	Rubric
2	a-e	<p>Through the use of technology, students will create budgets based on specific items supplied by the teacher.</p> <p>Given \$20,000, use the Internet to research the best car buy. Investigate the following areas: interest rates, gas mileage, trade-in, wholesale and retail value, consumer report ratings, etc.</p>	Rubric
3	a-b	<p>Have students write a synopsis of findings.</p> <p>Have students access and use appropriate software that will enable them to create a check register, make deposits, and reconcile bank statements.</p> <p>Provide each student with data to use in completing a month of checkbook activities. Have the students generate a report that gives a list of all checks written for the month.</p> <p>In addition, provide students with information needed to reconcile a bank statement, and have them generate a completed bank reconciliation.</p>	Rubric
4	a-d	<p>Invite a representative from a local bank to discuss credit with the class. The representative will explain the value of good credit as opposed to bad credit, how credit history is established, and the effects of results on individuals.</p>	Teacher Observation
5	a-c	<p>Have students access the Internet and go to the Internal Revenue Service web site (<a href="http://www.irs.gov">www.irs.gov</a>). Have them explore the site, looking for the following answers:</p> <ol style="list-style-type: none"> <li>1. How do you download tax forms?</li> <li>2. How do you file taxes online?</li> <li>3. List three (3) organizations that are eligible to receive tax-deductible charitable contributions.</li> <li>4. List eight (8) questions which determine if an individual</li> </ol>	Rubric

**FINANCIAL TECHNOLOGY, 9-12**

6	a-b	<p>should file a Federal Income Tax Return. 5. How do you apply for educational financial aid? (Teachers may substitute or find additional questions by visiting the web site.)</p> <p>Provide students with URL's for three (3) software companies. Have them visit each site and research software licensing policies, how violations are determined, and the penalties that result. After gathering research, students will prepare a report comparing and contrasting policies, violations, and penalties of the three (3) companies.</p>	Rubric
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## GLOBAL MARKETING

### Grade Levels: 9-12

Global Marketing introduces students to the processes and functions involved in transferring business products or services to a customer. As a major business function, marketing impacts the American economic system as well as the international economy. Students will study the foundations of marketing and recognize how these concepts are important to everyone because of their impact in terms of communication and interpersonal skills, the global business market, being an asset to the business world, improving a product and service, having good selling strategies, and successfully completing financial transactions.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Recognize the customer-oriented nature of marketing and analyze the impact of marketing activities on the individual, business, and society. (A, C, CO, EN, EP, IB, M, MK)

- a. Identify the correlation between a successful marketing strategy and positive customer relationships.
- b. Identify the elements of the marketing mix (e.g., product, price, plan, and promotion).
- c. Describe the wide scope of marketing -- business-to-consumer, business-to-business, industrial, nonprofit, personal, government, and electronic.
- d. Describe the importance of marketing in a global economy as it relates to the job-seeking process and career planning .

#### 2. Analyze the characteristics, motivations, and behaviors of customers and how to use self-development techniques and interpersonal skills. (C, CO, IB, MK)

- a. Describe the impact of consumer differences (e.g., life stages and socioeconomic characteristics) on buying decisions.
- b. Differentiate between ultimate consumers and other types of consumers (e.g., government, business, industry, and nonprofit).
- c. Define market segmentation and describe how it is used.

d. Identify the tools of market segmentation (e.g., demographics and geographics).

**3. Analyze the influence of external factors on marketing. (B, C, CO, EN, EP, IB, IT, M, MK)**

- a. Describe the impact of specific marketing regulations/laws on both domestic and international business.
- b. Differentiate between ethical and unethical marketing practices.
- c. Identify the differences in ethical standards in international markets.
- d. Explain competitive decisions (e.g., monopolistic, oligopolistic, and pure competition) and the impact they have on marketing decisions).
- e. Describe ways cultural differences, both domestic and international, affect marketing activities.
- f. Explain the importance of having a technological edge over the competition (e.g., faster to market with new products).

**4. Analyze the elements of the marketing mix through products and services and places of distribution, their interrelationships, and how they are used in the marketing process. (B, EP, EN, IB, IT, M, MK)**

- a. Classify products in consumer categories (e.g., convenience, shopping, and specialty goods) or industrial categories (e.g., raw materials, component parts, and installations).
- b. Describe the process for new product and service development (e.g., conception, development, and test marketing).
- c. Examine global opportunities for new products and identify ethical issues.
- d. Explain the impact of brands and product mix on consumer behavior.
- e. Examine direct and indirect channels of distribution (e.g., wholesaler, agent, broker, and the Internet) and when each is most appropriate to use.

**5. Analyze the elements of the marketing mix through product prices and promotion of products (e.g., advertising, sales promotion, public relations and publicity, and personal selling). (A, B, C, CO, CP, EN, EP, IB, IT, M, MK)**

- a. Calculate a product's price using different pricing methods.
- b. Describe the impact of global influences (e.g., currency exchange rates, tariffs, and distribution costs) on pricing.
- c. Identify methods for evaluating the effectiveness of various forms of advertising (e.g., print, broadcast, and electronic).
- d. Identify ethical issues (e.g., false and misleading advertising, Copyright infringement, and age group discrimination).
- e. Recognize the impact of different cultural standards on advertising.
- f. Recognize marketing opportunities created by new communication technologies.
- g. Describe the purposes of various types of sales promotion (e.g., encouraging repeat purchases and building traffic).
- h. Identify various forms of public relations activities and examine the role of salespersons in building customer relationships.

**6. Analyze the role of marketing research in decision-making. (CP, MK)**

- a. Identify the reasons for conducting market research.
- b. Differentiate between primary and secondary sources of data.
- c. Identify sources of secondary data (e.g., electronic and library) and identify the methods for collecting primary data (e.g., focus groups and surveys).

**7. Describe the elements, design, and purposes of a marketing plan. (CP, MK)**

- a. Explain why a marketing plan is essential and identify its components.

GLOBAL MARKETING, 9-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, c, d	<p>Teacher will put a list of local businesses listed in the State Industrial Directory as exporters pm an overhead and have each student choose one are company. Students will be asked to choose a business that they are curious about to conduct a survey. Teacher will tabulate the results and will present them to the class. Students must work together to write a summary of their research that describes the importance of marketing in a global economy.</p> <p><b>Sample survey:</b>            Directions: You are to call a local business and ask to speak with someone knowledgeable about their export operations.</p> <p>Name of business</p> <hr/> <p>Person Interviewed</p> <hr/> <p>Telephone #</p> <hr/> <p>Questions:</p> <ol style="list-style-type: none"> <li>1. What ate the major products your company exports from the Mississippi area?</li> <li>2. What countries are the biggest importers of your products (top three countries)?</li> <li>3. As a percentage of your total local business, have exports increased, decreased or stayed the same in the last two years? Why have they increased/decreased?</li> <li>4. Have your exports to any particular country significantly changed in the last two years? Why?</li> <li>5. Do you expect your exports to increase/decrease or stay the same in the current year? Why?</li> </ol> <p>(Make sure that students use proper etiquette in communicating with the business.)</p>	Checklist
1 2	b-d a-d	<p>Teacher will explain the customer service options that are appropriate to selected types of businesses and their target markets.</p>	Observation
3	a, e	<p>Students will develop a comparative study to determine the feasibility of marketing a chosen product for overseas shipment. A written report and model of the selected product will be presented to the class.</p>	Rubric

**GLOBAL MARKETING, 9-12**

Comp.	Obj.	Suggested Teaching Objectives	Suggested Assessments
3	b, c	<p>Students will read/examine article about commercial exploitation of children. Go to: <a href="http://www.commercialexpotation.com/articles/marketingviolence.htm">http://www.commercialexpotation.com/articles/marketingviolence.htm</a>.</p>	Checklist
3	d	<p>After reading the article, students will divide into groups to answer the following questions: How do some corporations' campaigns increase children's exposure to violence? What are some ways the concerned public can take a stand on this issue? After answering the questions, the groups will design a plan to stop the negative campaigns.</p>	Rubric
3	f	<p>Teacher will discuss a monopolistic company. Students will divide into groups and list characteristics of a monopolistic company. They will also list five companies they believe to be monopolies. Each group will give an oral report to class.</p>	Rubric
4	a, c, d	<p>Teacher will discuss marketing strategies, including target audiences, technological options, etc., showing examples of advertisements and leading a class discussion on how the marketing strategy was planned and its effectiveness. Students will work in assigned groups to design a marketing strategy for a product (assigned by teacher). Students will present completed strategies to the entire class.</p>	Rubric
4	b, d	<p>Teacher will have pictures of items that he/she shares with the class. Students will decide whether items are consumer products in industrial products. Once students make their decisions, they will go over the correct answers. Students will brainstorm new products that they could market globally. Students will decide if their new products would be considered ethically sound. Students will also determine how their new products will affect consumer behavior globally.</p>	Observation/checklist
4	b, d	<p>Students will work as a team to construct a flowchart of the consumer decision-process. They will also list selling strategies that could be used to positively influence the consumer in each stage of the decision-making process.</p>	Observation/checklist

4 5	e a	Students will research the financial statements of three different businesses in three different industries and determine which categories are customer-service related and how changing the data will affect profitability.	Checklist
5	b	Using the Internet as a resource, students will find answers to this question: The European System of Central Banks (ESCB) is a regulatory body monitoring the monetary policy of EU Member States. How does reducing the internet rate in Germany affect movement of the euro in foreign exchange market because of the fixed conversion rates of euro to member states? Students will go to <a href="http://www.ecb.int/">http://www.ecb.int/</a> (European Central Bank) to find the answers.	Checklist
5	c, d	Students will be divided into 3 groups. Each group will be given a different grocery chain to research: 7-Eleven ( <a href="http://www.7-eleven.com/">http://www.7-eleven.com/</a> ), Royal Ahold ( <a href="http://www.agikd.nl/">http://www.agikd.nl/</a> ), and Wal-Mart.com ( <a href="http://www.walmart.com/">http://www.walmart.com/</a> ). Students must answer the following questions: How does the grocery chain manage their global distribution channels? Evaluate the strengths and weaknesses. How are they competing using print, broadcast, and electronic forms of advertising? What can you tell about misleading advertising in this grocery chain? Does the chain mention anything about age group discrimination? Findings will be discussed in class.	Observation
5	e	Teacher will bring to the class several advertisements from France, Spain, Germany, Russia, and the United States. Students will be asked to examine the advertisements by comparing/contrasting cultural norms and differences in the advertisements. Student volunteers will go to the board and construct a Venn Diagram. Findings will be discussed in class.	Observation
5	f	Students will compare the pricing strategies in virtual stores in <a href="http://www.amazon.com/">Amazon.com</a> around the world. Students will identify the difference between them and explain the reasons for these differences. Students will go to: <a href="http://www.amazon.com/">http://www.amazon.com/</a> <a href="http://www.amazon.com.uk/">http://www.amazon.com.uk/</a> <a href="http://www.amazon.com.fr/">http://www.amazon.com.fr</a> <a href="http://www.amazon.de/">http://www.amazon.de/</a> <a href="http://www.amazon.co.jp/">http://www.amazon.co.jp/</a>	Checklist

**GLOBAL MARKETING, 9-12**

5	g, h	<p>Students will write a two-page paper based on their findings.</p> <p>Students will examine the new product development concepts of two toy manufacturers. Students will think of ways that product strategies will be managed within a global scale. Students will visit two toy company web sites:</p> <p><a href="http://www.lego.com/">http://www.lego.com/</a></p> <p><a href="http://www.toysource.com/">http://www.toysource.com/</a></p>	Checklist
6 7	a-c a	<p>Afterwards, students will “create a toy.” Students will come up with ten ways they can market their “toy.”</p> <p>Students will consider their own marketing experiences (both positive and negative) by asking them to discuss a recent experience with a marketer. Students will participate in a class discussion of these experiences and then compose a letter to the marketer they discussed, outlining their perception of their experience and asking for a response to their letter. Students will share the response letters within a class discussion.</p>	Observation/rubric

## **GRAPHIC DESIGN I**

### **Grade Levels: 10-12**

Graphic Design I is designed to provide the student an introduction to various graphic and image editing programs. Students will learn to consider standard design guidelines while developing their projects.

This course is designed to be a one-semester course, .5 credit course.

Prerequisites: Desktop Publishing I

### **CONTENT STRANDS:**

- |                             |                             |  |
|-----------------------------|-----------------------------|--|
| (A-Accounting)              | (B-Business Law)            | (C-Career Development)                 |
| (CO-Communication)          | (CP-Computation)            | (EP-Economics and<br>Personal Finance) |
| (EN-Entrepreneurship)       | (IT-Information Technology) |  |
| (IB-International Business) | (M-Management)              | (MK-Marketing)                         |

### **COMPETENCIES and Suggested Objective(s):**

- 1. Compare and contrast bitmap, vector, and page-layout programs (e.g., Adobe Photoshop, Photo-paint, Corel). (IT)**
  - Define bitmap image and identify programs that fall into this category.
  - Define vector image and identify programs that fall into this category.
  - Define page-layout software and identify programs that fall into this category.
  - Identify reasons for choosing either a bitmap or vector-based program over the other.
- 2. Develop an understanding of photo-editing (bitmap) software (e.g., Adobe Photoshop, Photo-paint). (IT)**
  - Identify basic program tools and features.
  - Utilize features to modify existing pictures.
  - Demonstrate an understanding of the software by creating original work.
- 3. Develop an understanding of vector-based software (e.g., Adobe Illustrator, Macromedia Freehand). (IT)**
  - Identify basic program tools and features.
  - Utilize features to modify existing pictures.
  - Demonstrate an understanding of the software by creating original work.

**4. Develop an understanding of page-layout software (e.g., Microsoft Publisher, Quark Xpress, Adobe InDesign). (IT)**

- a. Identify basic program tools and features.
- b. Import existing images into documents.

**5. Develop a basic understanding of typography. (IT)**

- a. Define typography.
- b. Identify basic methods for improving the appearance of type in a document.

**6. Identify methods for importing external images. (IT)**

- a. Develop an understanding of basic digital camera operations.
- b. Develop an understanding of basic scanner operations.
- c. Develop an understanding of screen capture techniques.

**GRAPHIC DESIGN I, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a-d	Teacher will define and provide examples of bitmap images, vector images, and page-layout software.	Observation
1	d	Students will analyze a teacher-provided list of situations to determine which program type would be most appropriate.	Observation
2	a, b	Teacher will discuss the basic features of a photo-editing program. Students will repeat the steps discussed.	Observation
2	c	Students will design original images for an assigned topic.	Rubric/checklist
3	a, b	Teacher will discuss the basic features of a vector-based program. Students will repeat the steps discussed.	Observation
3	c	Students will design original images for an assigned topic.	Rubric
4	a, b	Teacher will demonstrate features of page-layout software. Students will import pictures from previous activities to create a publication on a given topic (e.g., a brochure for a music store).	Rubric
5	a, b	Teacher will define typography and discuss techniques for improving the appearance of type both on the screen and in print.	Observation
6	a	Teacher will demonstrate steps for importing pictures from a digital camera. Students will repeat the process.	Rubric
6	b	Teacher will demonstrate steps for scanning pictures. Students will repeat the process.	Rubric
6	c	Teacher will demonstrate steps for taking screen shots and importing them into page-layout software. Students will repeat the process.	Rubric
6	a-c	Students will create a guide for importing pictures from a digital camera and scanning pictures. The guide will contain detailed instructions for each. It will also contain screen shots showing the necessary steps within the software.	Rubric

## GRAPHIC DESIGN II

Grade Levels: 10-12

Graphic Design II is a continuation of Graphic Design I. In this course, students will learn to use additional advanced features not covered in Graphic Design I. Students will continue exploring the design guidelines for creating effective and visually appealing projects.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Graphic Design I

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Develop advanced proficiency in using photo-editing (bitmap) software (e.g., Adobe Photoshop, Photo-paint, Corel). (IT)

- Review photo-editing software features covered in Graphic Design I.
- Identify additional advanced features that improve the quality of the image or simplify the process of creating images.
- Demonstrate an understanding of the software by creating original work.

#### 2. Develop advanced proficiency in using vector-based software (e.g., Adobe Illustrator, Macromedia Freehand, AutoCAD Software). (IT)

- Review vector-based software features covered in Graphic Design I.
- Identify additional advanced features that improve the quality of the image or simplify the process of creating images.
- Demonstrate an understanding of the software by creating original work.

#### 3. Develop advanced proficiency in using page-layout software (e.g., Microsoft Publisher, Adobe InDesign). (IT)

- Review page-layout features covered in Graphic Design I.
- Identify additional advanced features that improve the quality or simplify the process of creating the layout.

- c. Demonstrate an understanding of the software by creating original work.
- d. Compare and contrast the features of leading page-layout programs.

**4. Identify trends and career opportunities in the graphic design field (e.g., Quark Xpress).  
(C, IT)**

- a. Research higher education programs for the graphic design field.
- b. Research to find information on the various graphic design career opportunities.

**GRAPHIC DESIGN II, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Students will identify photo-editing software features he/she learned in Graphic Design I. Students will also provide examples of how each can be used.	Observation
1	b, c	Teacher will discuss and demonstrate additional photo-editing features. Students will create/edit graphics which require the use of those features. Students will use the new features to create graphics on an assigned topic. For instance, students will bring photos of themselves and replace the photo backgrounds with a different background of their own choosing.	Rubric
2	a	Students will identify vector-based software features he/she learned in Graphic Design I. Students will also provide examples of how each can be used.	Observation
2	b, c	Teacher will discuss and demonstrate additional vector-based software features. Students will create/edit a company logo, which requires the use of those features.	Rubric
3	b, c	Teacher will discuss and demonstrate additional page-layout software features. Students will create/edit graphics, which require the use of those features. For instance, students will design a Media Guide for a high school sports program.	Rubric
4	a, b	Students will use the Internet to compare educational opportunities in graphic design. Students will use the Internet and designer interviews to research career opportunities in graphic design. Findings will be shared in a presentation.	Rubric

## HOME TECHNOLOGY INTEGRATOR (HTI) Grade Levels: 11-12

The Home Technology Integrator (HTI) course teaches students to design and install an integrated home network that connects and controls subsystems in a home. Students will gain knowledge from an online curriculum and assessment system and participate in hands-on training labs by teachers trained in the HTI program.

This course is intended to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications; Semester 1 of Certified Advanced Networking programming (CAN)

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

- 1. Demonstrate a basic understanding of the overall field of home technology integration, including an overview of the industry and the role of the HTI. (C, EP, EN, IT, M, MK)**
  - Identify and describe standards, codes, and regulations that govern and guide the home technology field, including the standard industry guidelines for Institute of Electrical and Electronics Engineers (IEEE), Insulated Cable Engineering Association (ICEA), International Standard Organization/International Engineering Consortium (ISO/IEC), and National Research Council/Institute for Research in Construction (NRC-IRC).
  - Describe the fundamentals of building a computer network, including general concepts, infrastructure, technologies, and computer subsystems and networking products.
- 2. Analyze the area of telecommunications, including equipment location, configuration, and connecting devices. (C, EP, EN, IT, M, MK)**
  - Describe audio and video considerations, physical products, equipment location and configuration, in-house services, and the standards and codes that regulate this aspect of the field.
  - Recognize the design considerations, physical products, and all standards and installation procedures for the field of security and surveillance.

**3. Program home-automation systems for lighting, Heating, Ventilation, Air-conditioning (HVAC), water, and access systems. (C, EP, EN, IT, M, MK)**

- a. Identify structured cabling systems for twisted-pair, shielded, coax and fiber cable.
- b. Describe high-voltage applications.
- c. Configure system integration: design the layout and presentation of the residential installation and demonstrate the integration of the components of the various systems in the wired home.
- d. Demonstrate cable placement and device location for the new and existing home.
- e. Demonstrate the structured media center and cable installations.

**4. Describe the finishing, system testing, and troubleshooting of the integrated home network. (C, EP, EN, IT, M, MK)**

- a. Understand the integrated installations for multiple dwelling buildings.
- b. Incorporate support and training for the new homeowner or users.

**HOME TECHNOLOGY INTEGRATOR (HTI), 11-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
		<p>Information on strategies and assessment methods can be found in the materials that accompany the HTI teacher-training program.</p>	

## **INFORMATION PROCESSING**

### **Grade Levels: 9-12**

Information Processing provides the student a workable knowledge of database management and spreadsheet applications for use in the workplace and post-secondary education. Students will integrate database, spreadsheet, and word processing files to produce personal and business-related documents. It is recommended that industry-standard software (individual packages or a suite) be used in this course.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

- 1. Review basic operating skills for using computers, appropriate hardware, and operating systems. (C, CO, IT, M)**
  - a. Review the functions, precautions, setup, and terminology associated with basic components of a computer system.
  - b. Identify various types storage media available and save/retrieve files.
  
- 2. Demonstrate an understanding of word processing concepts and terminology and apply word processing techniques to create, save and modify documents. (C, CO, IT, M)**
  - a. Define word processing terminology.
  - b. Recognize and apply formatting and editing techniques such as justification, margins and tabs, indents, centering, fonts and styles, and line spacing to various documents (letters, envelopes, reports, tables, etc.)
  - c. Recognize and apply document-formatting features such as headers, footers, page numbering, etc.
  - d. Perform the functions of inserting/deleting text, selecting copy, copying/moving text, and finding/replacing text.
  - e. Periodically key and proofread timed writings.
  - f. Identify and apply word processing techniques to produce specialized projects.

**3. Demonstrate an understanding of database management concepts and terminology and apply database software concepts to create, save, modify, and print databases. (C, CO, IT, M)**

- a. Define database terminology.
- b. Identify database structure and components.
- c. Create a database structure.
- d. Input database information.
- e. Modify a database structure.
- f. Append, modify, and delete records in the database.
- g. Query and sort a database.
- h. Prepare and print structures, lists, and reports using database data.

**4. Demonstrate an understanding of spreadsheet concepts and terminology and apply spreadsheet software techniques to create, format, modify and print spreadsheet and graphs. (C, CO, IT, M)**

- a. Define spreadsheet terminology.
- b. Identify spreadsheet structure and components.
- c. Create and format a spreadsheet using values and labels.
- d. Demonstrate an understanding of formulas (add, subtract, multiply and divide) and the ability to enter them into spreadsheet cells.
- e. Demonstrate an understanding of spreadsheet functions (SUM, COUNT, AVG, MIN, and MAX) and the ability to enter them into spreadsheet cells.
- f. Modify and save a created spreadsheet.

**5. Integrate and produce documents using various software application features and integration methods. (C, CO, IT, M)**

- a. Perform integrated procedures using various software applications such as importing/exporting spreadsheet files, merging variable and constant information, preparing labels, and copying data between documents.
- b. Generate form letters from a database file and a word processing file.
- c. Generate mailing labels, envelopes, postcards, form letters, and reports.
- d. Perform printing procedures to produce hard copies of various documents.

**6. Identify legal and ethical aspects of application software and assess possible solutions. (B, C, CO, IT, M)**

- a. Discuss Copyright laws pertaining to using software applications and source documents.
- b. Discuss legal aspects of using Internet resources, such as Copyright images, citing resources, shareware vs. freeware, etc.

**INFORMATION PROCESSING, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	After reviewing students on various items (methods to store media, save/retrieve files, components of the computer including auxiliary attachments such as a scanner), teacher will divide students into four-five groups. Each group will independently identify and practice using the items discussed. Peers will constructively critique each other.	Observation
2	a	Teacher will discuss word processing terms and then divide the class into teams to play Jeopardy, using word processing terms, menus, capabilities, etc., (e.g., "You can set your page margins here"). At the end of the game, teacher will reward the winning team with 10 minutes of "play" time (Solitaire, etc.) on the computer.	Observation
2	b-d, f	Teacher will instruct students to access a teacher-prepared file and complete word processing options outlined on a handout that includes the following: search/replace specific words, set tabs and indents, change fonts and styles, change line spacing, insert headers and footers, insert page numbering, copy/move text, and printing. (A research paper formatted in MLA style would be a great document for this activity). Students will print a final, modified copy of the problem.	Rubric
2	e	Students will take 1', 3' and/or 5' timed writings, use proofreader marks to indicate errors on the writing, and will calculate their words per minute (wpm).	Rubric
3	a-h	Students will divide into four groups and complete the following project assigned by the teacher: The class will design and create a database for the entire senior class at the school. All groups will work together to decide on the structure and components to include in the database. Students will join their respective groups, set up the database and enter 25% of the names/information required. Teacher will then present a hand-out that instructs the students to modify the fields in the structure to include a field for plans after graduation. After the structure is modified, all names are entered, and the records have been proofread information modified, deleted, or added if necessary), the four parts of the database will be merged into one large database. Each group will be assigned (by the	Rubric

**INFORMATION PROCESSING, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
4	a-f	<p>teacher) different information to obtain from the (database (e.g., query for all students 18 years of age). Each group will prepare and print reports detailing this information.</p> <p>Following instructions on a project instruction handout, students will design and create a worksheet, using appropriate cell references, formulas, and functions to calculate the total sales and sales percentage for a company employing ten salesmen. All sales amounts for each employee will be supplied on the project instruction sheet. Students will also use the software's graphing capabilities to create a pie chart comparing each salesman's amount of sales. Students will format and print the worksheet according to instructions on the handout (e.g., print in landscape orientation, hide gridlines, etc.).</p>	Rubric
5	a-d	<p>Teacher will distribute a problem sheet which contains the following: Students will create a spreadsheet that calculates the total sales for Company A. The spreadsheet should also contain a pie chart indicating how each product compared to total sales. Students will prepare a form letter (merged with a database file of all employee names/addresses) to employees of the company telling them how well the company has performed and containing a copy of the spreadsheet and pie chart. Students will print three of the form letters for grading.</p>	Rubric
6	a, b	<p>Teacher will have students research Copyright laws that deal with using Copyrighted software, Copyrighted images, and shareware. Students will prepare an MLA style report presenting the results of their research.</p>	Rubric

## **INNOVATIVE APPLICATIONS USING TECHNOLOGY**

### **Grade Levels: 11-12**

Innovative Applications Using Technology is a project-oriented course. A team approach and the development of leadership ability are emphasized. Students expand their critical thinking, organization, communication, and technology skills. Using available technology, students will select and research a project, assimilate the data, and communicate the results. This is an applied learning course where the teacher's role is that of facilitator.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications; Instructor Recommendation

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Identify and investigate an appropriate course of action for an assigned topic. (CO)**

- Analyze strategies and goals for completing the project.
- Develop a project-solving checklist.

#### **2. Research, organize, and assimilate findings using available technology. (IT)**

- Apply information acquisition skills using available technology.
- Analyze and organize data gained from research.
- Assess the credibility of accumulated data.

#### **3. Identify legal and ethical aspects associated with using technology for research and in preparation of publications and presentations. (B)**

- Develop an awareness of Copyright laws.
- Follow legal and ethical guidelines in preparing projects.

#### **4. Generate and present solutions to problems using various technological options. (IT)**

- Present proposed solutions using appropriate technology (e.g., web page, PowerPoint, Desktop Publishing publications, Movie Maker).

**INNOVATIVE APPLICATIONS USING TECHNOLOGY, 11-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will guide each student in the development of a course of action, depending on Students will create/submit a problem-solving checklist and will provide written feedback.	Observation/checklist
2	a, c	Students will research and download credible data/information using the Internet, CD-ROM software, and automated circulation system (electronic card catalog.	Rubric
2	b	Students will use software to organize notes, create spreadsheets, generate graphs, etc.	Rubric
3	a	Students will bring class examples of violations dealing with Copyright laws and publication laws from newspaper and magazine articles. Teacher will place them into groups for practice in analyzing the examples that the students provide.	Checklist/rubric
3	b	An attorney, possibly the school district's attorney, will discuss with the class the restrictions that are placed on video images taken of students. The attorney will also discuss the steps necessary in securing permission for use of video images.	Observation
4	a	Students will develop and display a web page (e.g., Students will design a web page by first, researching five people that influenced society in a positive way, and will display those five peoples' accomplishments).	Rubric

## **INTERNATIONAL BUSINESS and PUBLIC POLICY**

### **Grade Levels: 9-12**

The International Business and Public Policy course is an area of the business technology curriculum that commands center stage attention in today's global economy. Competencies for this course focus on raising awareness of the interrelatedness of one country's political policies and economic practices on another, learning to improve international business relations through appropriate communication strategies, understanding the global business environment, exploring basic concepts underlying international finance, management, marketing, and trade relations, and identifying forms of business ownership and international business opportunities.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

- 1. Demonstrate a knowledge and awareness of international business and public policy and explain how business is impacted at all levels. (C, EN, EP, IB, M, MK)**
  - Explain the role and impact of international business and public policy at local, regional, national and international levels.
  - Analyze the potential impact (on a community, region, state, and country in which it is located) of a domestic company involving itself in international trade opportunities.
- 2. Demonstrate knowledge of ethics and other factors (social, cultural, political, legal, and economic) that shape and impact the international business environment. (B, EP, EN, IB, M, MK)**
  - Define ethics and social responsibility.
  - List business actions that may positively or negatively influence ethical decisions regarding the environment, the consumer, and the well-being of society.
  - Identify current and emerging ethical issues in the global business environment.
  - Describe potential consequences of unethical business dealings in various international settings.

**3. Apply communication strategies necessary and appropriate for effective and profitable international business and public policy relations. (B, CO, EP, EN, IB, M, MK)**

- a. Discuss complications involved when speaking or interpreting a language abroad.
- b. Compose effective business communications for the global business environment based on an understanding of differences in tone, style, and format.
- c. Compare various types of business relationships in different cultures.
- d. List examples of nonverbal communications affecting international business and public policy relationships and negotiations.

**4. Explain the concepts, role, and importance of international finance and risk management. (A, B, CP, EP, EN, IB, M, MK)**

- a. Define basic terms, (e.g., currency and currency exchange) and list the currencies of various countries.
- b. Distinguish between currencies and explain how currency exchange rates affect companies.
- c. Describe the international monetary system.
- d. Identify major foreign exchange and commercial risks associated with international business and public policy activities.

**5. Apply marketing concepts to international business and public policy situations. (EP, EN, IB, M, MK)**

- a. Illustrate how social, cultural technological, and geographic factors influence consumer buying behavior in different cultures.
- b. Describe how marketing elements need to be adapted for international marketing efforts.
- c. Describe how cultural differences may affect the way a product is advertised and/or marketed in different countries.

**6. Relate balance of trade concepts to the import/export process. (EP, EN, IB, M, MK)**

- a. Describe the role of state and federal agencies and other agencies and organizations that provide exporting information and assistance.
- b. Explain how historical events have contributed to the formation of strategic trade alliances.
- c. Predict the economic and social costs and benefits of international trade to the companies, regions, and countries involved.

## INTERNATIONAL BUSINESS and PUBLIC POLICY, 9-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Students will participate in a forum to discuss the differences in domestic and international companies.	Observation/checklist
1	a, b	Students will report on historical developments to illustrate the past experiences of the U.S.'s role in international trade and to describe the impact of international business on local, regional, and national levels.	Rubric
1	a, b	Students will participate in mock interviews with key business resource persons from various cultures for specific careers and prepare applications and other job application documents for various cultures.	Rubric
1	a, b	Students will illustrate through charting procedures and explain the relationships of the major trade alliances with each other.	Rubric
1	a, b	Students will discuss and illustrate how time zones around the world affect business operations.	Rubric/checklist
1	a, b	Students will use a world map to chart the major cities of the world and identify associated countries.	Observation/checklist
2	a	Students will participate in a forum to compare and contrast social roles of various cultures, e.g., time, workday, workweek, schedules and holidays.	Observation/checklist
2	b, c	Students will work in groups and use resources, e.g., interviews and web sites to analyze the impact of social, cultural, political, legal and economic aspects on conducting business in various countries.	Rubric
2	a-c	Students will present oral reports to describe environmental factors that define what ethical business behavior is in a global business environment.	Rubric
2	b, c	A prominent human resource/public policy consultant will explain and illustrate to students the impact of regional/global economies on educational and career opportunities.	Teacher-made examination

## INTERNATIONAL BUSINESS and PUBLIC POLICY, 9-12

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
2	c	A prominent attorney resource person will present and discuss with students the legal implications for the ethical conduct of business across national boundaries.	Observation/teacher-made examination
2	b-d	Students will use online resources to report on legal differences between countries, (e.g., consumer protection, product guidelines, labor laws, contract formulation, liability and taxation).	Rubric
2	d	Students will research and prepare written reports to show an analysis of less developed and developing countries.	Rubric
3	a-d	Utilize a prominent translator to explain communication tactics used throughout the world and discuss complications, challenges, and effective communication strategies.	Observation/teacher-made examination
3	a-d	Students will role-play effective steps to receive business visitors from specific countries.	Observation
3	a-d	Students will discuss the effective use of business cards and compare business protocol throughout the world.	Observation
4	a-d	Students will participate in a field trip to an international monies department at a local bank.	Observation/checklist
4	a-d	After participating in a field trip, students will define basic terms, (i.e., currency and currency exchange). Students will explain how currency exchange rates affect companies.	Teacher-made examination
4	a-d	A prominent international banking representative will consult with students to describe the international monetary system, basic elements of international security markets, types of international payment and pricing in foreign markets.	Teacher-made examination
4	a-d	Students will discuss and identify international banking organizations.	Teacher-made examination
4	c	Students will use online resources to research and analyze the Foreign Corrupt Practices Act.	Teacher-made examination

**INTERNATIONAL BUSINESS and PUBLIC POLICY, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	d	Students will participate in a forum to discuss the differences in occupational health and safety standards and to discuss the impact of standards on the conduct of business internationally.	Observation
5	a-c	Students will research to identify foreign market media and social/cultural factors affecting promotions used in foreign markets.	Teacher-made examination
5	a-c	Students will collect and critique advertisements related to international business.	Rubric
5	b, c	Students will research to prepare a chart to show the differences in the roles of agents, wholesalers, retailers, freight forwarders, export companies, trading companies and customs brokers.	Rubric
6	a-c	A local small business administrator will consult with students to discuss organizations, government agencies, other resources and techniques that may be used to investigate international trade opportunities and market potential goods and services to foreign markets.	Teacher-made examination
6	a-c	Students will create a sales presentation for a foreign market product.	Rubric

## KEYBOARDING

### Grade Levels: 9-12

Keyboarding provides students the opportunity to master the touch-method key stroking skill for entering alphabetic, numeric, and symbolic information on a keyboard and a ten-key pad. Emphasis is placed on developing proper speed and accuracy techniques. Students will format documents such as letters, memorandums, reports, announcements, and tables for personal, educational, and business uses.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### CONTENT STRANDS:

(A-Accounting) (CO-Communication)	(B-Business Law) (CP-Computation)	(C-Career Development) (EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Develop a basic understanding of terminology/applications, components, and care associated with the use of computers. (C, CO, IT, M)

- Identify and describe the functions of the basic components of a computer system.
- Describe precautions and care related to the proper use of computers and accessories.
- Demonstrate the ability to set up and adjust a simple computer system.
- Demonstrate the ability to properly insert external media.

#### 2. Develop basic skills associated with the use of an operating system. (C, CO, IT, M)

- Identify basic parts of the operating system interface features and functions.
- Develop an understanding of basic file management techniques.

#### 3. Develop touch-keyboarding techniques. (C, CO, IT, M)

- Demonstrate proper ergonomic techniques.
- Demonstrate proper techniques in alphabetic and numeric touch keyboarding.

**4. Develop speed, accuracy, language, proper formatting and proofreading techniques. (C, CO, IT, M)**

- a. Recognize and apply formatting and editing techniques such as justification, margins and tabs, indents, centering, fonts and styles, and line spacing to various documents (letters, envelopes, reports, tables, etc.).
- b. Recognize and apply document-formatting features such as headers, footers, page numbering, etc.
- c. Perform the skills of proofreading, inserting/deleting text, selecting copy, copying/moving text, and finding/replacing text.
- d. Develop language skills.
- e. Periodically key and proofread timed writings.

**5. Produce memos and letters according to accepted business formats and styles. (C, CO, IT, M)**

- a. Key memos and letters in simplified and formal formats.
- b. Key memos and letters in block and modified block formats.
- c. Key personal and business letters with envelopes.

**6. Format and produce simple tables. (C, CO, IT, M)**

- a. Determine margins and tab stops for simple tables.
- b. Key and print simple tables.

**7. Format and produce reports. (C, CO, IT, M)**

- a. Print simple reports.

**KEYBOARDING, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will show and explain the different components of a computer system.	Observation
1	b-d	Teacher will demonstrate the proper procedure for adjusting controls and loading paper into the printer, using external media, etc.	Observation/critique/ checklist
2	a	Teacher will demonstrate fundamental operating system commands.	Observation
2	b	Teacher will describe the rules for naming and saving files used with an operating system.	Observation
2	b	Teacher will demonstrate the procedures for accessing different disk drives in a computer system.	Observation Checklist
3	a, b	Students will observe and critique peers using proper keyboarding posture and techniques.	Checklist
4	a	Students will re-format teacher-provided documents.	Checklist
4	b	Students will add page numbering to a multi-page document.	Rubric
4	c, d	Students will identify and correct errors while revising documents.	Rubric
4	e	Students will take 1', 3' and/or 5' timed writings and use proofreader's marks to indicate errors.	Rubric
4	e	Students will play "typing football." The class will be divided into two teams. Teams take timed writings for either accuracy or speed (teacher decides), with the winning team advancing the ball 10 yards toward their goal. Winning writings are verified by opposing team members. The winning team is rewarded.	Observation
5	a	Teacher will provide an unarranged memo to students and they will apply memo-formatting guidelines to produce a format-correct copy.	Rubric
5	b, c	Students will key and print a letter with an accompanying envelope.	Rubric

**KEYBOARDING, 9-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
6	a, b	Students will organize data using simple tables.	Rubric
7	a	Students will key and format teacher-assigned reports from other classes, such as English, science, history, etc.	Rubric

## MULTIMEDIA PROJECTS

### Grade Levels: 11-12

Multimedia Projects is designed to provide training in multimedia software. Students will produce original projects utilizing advanced skills, such as video and audio production. Competencies are written so that they may be adapted to any multimedia software.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications and Instructor Recommendation

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Identify components and use of multimedia equipment. (IT)

- a. Discuss the precautions and care related to the proper use of multimedia equipment (e.g., data projectors, camcorders, digital cameras, etc.).

#### 2. Develop and produce specialized multimedia projects. (IT)

- a. Establish project requirements.
- b. Apply software skills to produce and present multimedia projects.

#### 3. Discuss and identify legal and ethical aspects of multimedia development. (B)

- a. Discuss Copyright laws pertaining to using software applications and content resources.

**MULTIMEDIA PROJECTS, 11-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a	Teacher will demonstrate procedures for using available equipment.	Observation
2	a, b	Using multimedia software, students will create an interactive tutorial on a teacher-assigned program or topic (e.g., pollution).	Rubric
3	a	Teacher will use a PowerPoint presentation to inform students of various Copyright laws as they relate to the use of software applications. Teacher will then conduct a question and answer session.	Observation

## NETWORK ESSENTIALS

### Grade Levels: 11-12

This course is designed to provide a broad-based foundation in the engineering and administration of computer network systems. Emphasis is on Personal Computer (PC)/network hardware and operating systems, architecture, protocols, design and security, and career development. Communication, mathematical, and critical thinking skills are strengthened throughout the course. Work-based learning strategies appropriate for this course are field trips and job shadowing. Simulations, projects, teamwork, Future Business Leaders of America (FBLA) /SkillsUSA-VICA leadership activities, meetings, conferences, and competitions provide opportunities for application of instructional competencies. Teachers must be trained using the ExplorNet curriculum.

This course is designed to be a full-year, 1 credit course.

Prerequisites: Algebra, Computer Engineering I and II

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Demonstrate career planning and leadership skills. (C, CO, IT)

- a. Evaluate the elements of a career plan in the Information Technology (IT) industry.
- b. Discuss IT ethical and legal issues.
- c. Explore emerging technologies.
- d. Demonstrate basic business meeting skills.
- e. Establish personal and organizational goals.
- f. Participate in student organizations.

#### 2. Explain components and functions of PC and network hardware. (CP, IT)

- a. Explain functions and safety related to PC hardware components and peripheral devices.
- b. Convert decimal, binary, and hexadecimal numbers.
- c. Explain the functions of the elements of network hardware: servers/workstations, transmission media, and network devices.

**3. Analyze the evolution and capabilities of operating systems. (IT)**

- a. Summarize the evolution of operating systems.
- b. Investigate the capabilities of Windows, NetWare, and Linux operating systems.

**4. Demonstrate the installation, configuration, and use of operating systems. (IT)**

- a. Demonstrate the installation and efficient use of a PC operating system.
- b. Explain the installation, configuration, and use of network operation systems.

**5. Evaluate internetworking media and transmission methods. (IT)**

- a. Evaluate types of cable.
- b. Characterize analog and digital signaling.
- c. Explore different transmission modes, including emerging networking media.

**6. Analyze specific network architectures. (IT)**

- a. Contrast physical and logical network topologies.
- b. Explain network architecture.
- c. Characterize Token Ring and Ethernet networks.

**7. Analyze protocol models. (IT)**

- a. Identify the function(s) of a protocol.
- b. Contrast the Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) models.
- c. Analyze the TCP/IP and other common protocol stacks.

**8. Explore various network designs. (C, IT)**

- a. Contrast local area networks (LANs) and wide area networks (WANs).
- b. Differentiate network types.
- c. Construct a LAN.

**9. Analyze network planning and design. (C, IT)**

- a. Evaluate practical considerations of network design and criteria for selecting hardware and operating systems.
- b. Explore scalability and planning for change.

**10. Explore the basics of network management and monitoring. (C, IT)**

- a. Explain the basic purposes of network management and monitoring.
- b. Identify performance issues related to network traffic.

- c. Explain fault tolerance and redundancy.
- d. Analyze computer viruses and other security threats.
- e. Explore the functions of passwords, user rights, data encryption, firewalls, and other security measures.

**NETWORK ESSENTIALS, 11-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
		<p>Information on strategies and assessment methods is found in materials that come with the ExplorNet teacher-training program.</p>	

## PERSONAL FINANCE

### Grade Levels: 9-12

Personal Finance allows the student to explore personal financial decision-making. It also helps individuals use skills in money management, record-keeping, banking, and investing. The course accomplishes this by the study of basic concepts involving economics, insurance, banking, credit, stocks and bonds, and other related topics through the use of business research tools and technological resources. Activities will include preparation of budgets, consumer skills, checking accounts, investment applications, comparison-shopping, advertising research, standard of living analysis, and comparison of housing options.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: None

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-InformationTechnology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Develop basic consumer-awareness skills. (A, B, CP, EP, IT, MK)

- Identify steps in a purchase decision while developing comparison-shopping skills.
- Identify consumer protection and assistance agencies.
- Analyze the impact and implications of consumer privacy.
- Examine the impact of advertising and marketing on consumer decision-making.

#### 2. Define and explain productivity and discuss the various factors that affect productivity. (CO, CP, EP, IT, M, MK)

- Describe why increased economic output increases the standard of living in a society.
- Indicate opportunity costs and economic risks involved to increase productivity of capital and human resources.
- Discuss the effects of government expenditures, regulations, and tax policies on productivity.

- 3. Using technology (e.g., application software, Internet), apply budgeting techniques that involve planning for transportation, housing, insurance, and leisure expenses. (A, B, CO, CP, EP, IT, MK)**
- Research the purchase of a vehicle, including taxes, maintenance, and other incidental costs.
  - Compare the advantages and disadvantages of home ownership versus renting.
  - Develop a budget (e.g., routine family vacation, entertainment).
- 4. Identify banking services and prepare related documents. (A, EP, IT, MK)**
- Using appropriate software, prepare documents such as checks, registers, deposits, and withdrawals.
  - Reconcile a bank statement.
  - Identify various savings mechanisms (e.g., interest-bearing checking accounts, savings accounts, savings bonds, and certificates of deposit).
- 5. Explore the process involved in securing credit and the effects of poor credit management. (A, B, CP, EP, MK)**
- Explore the pros and cons of various methods of financing a purchase (e.g., loan, installment, layaway, credit cards, etc.).
  - Identify personal qualifications necessary to obtain credit along with the purpose of credit reports.
  - Compare terms and conditions required by credit sources and complete a credit application.
  - Identify sources of assistance for credit problems, bankruptcy and the need for a sound credit rating.
- 6. Identify basic strategies for making money, stocks, bonds, terminology for stocks/bonds and apply procedures in maintaining a fictitious stock market portfolio. (A, B, CO, CP, EP, IT, MK)**
- Compare stocks and bonds.
  - Compare and contrast different market economies.
  - Identify and discuss sources for personal finance, family income, savings and investments.
- 7. Develop a working knowledge of the types of insurance available. (A, B, CP, EP, IT, MK)**
- Examine types of coverage for automobile, property, life, health, and income security.
- 8. Explore tax functions as related to personal finance and personal payroll. (A, CO, CP, EP, IT)**
- Compute sales tax and payroll tax.
  - Explore potential tax deductions and credits (e.g., health expenses, child/elderly care costs, career-related clothing expenses, career education, mortgage interest).
  - Identify types of income taxes.

**PERSONAL FINANCE, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	After studying purchasing concepts, students will role-play the steps in making an effective purchase decision.	Rubric
1	b, c	A representative from the Better Business Bureau and the Attorney General's Office will consult with students to discuss consumer protection and identify consumer assistance agencies.	Teacher-made examination
1	d	Students will collect and analyze advertisements to show the impact on consumer decision-making.	Rubric
2	a	Students will participate in a forum to discuss the effects that increased economic output has on the standard of living in a society.	Rubric
2	b	Students will read and analyze textbook references concerning the effects of government expenditures, regulations and tax policies on productivity.	Graded class and homework
2	c	Students will listen to and participate in a discussion with the state governor's economic advisor.	Teacher-made test
3	a	As an assignment, students will use online services to visit a motor vehicle dealership and obtain documentation to learn the price of a vehicle including taxes, maintenance, and other incidental costs that maybe required.	Rubric
3	b	Students will use the Internet to find the advantages of home ownership as opposed to renting and make a report to the class.	Rubric
3	c	Students will develop a plan for a family vacation and develop a budget for the vacation using online services, Microsoft Word, and Microsoft Excel.	Rubric/teacher-made test
4	a	Students will use available classroom software (e.g., QuickBooks, Quicken) and technology to prepare checks, registers, deposits, and withdrawals.	Rubric
4	b	Students will use the Internet to locate sites that offer information on reconciling a bank statement.	Rubric

**PERSONAL FINANCE, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	c	Students will use the Internet and locate sites that offer information on money-saving techniques for budgeting.	Rubric
5	a	Students will survey local news media for finance institutions and methods for financing vehicles, homes, food, clothing, and other personal needs.	Rubric
5	b	Students will discuss the personal qualifications necessary to obtain credit and discuss the purpose of credit reports in a classroom forum.	Rubric
5	c	Teacher will review terms and conditions required by credit sources. Students will complete credit applications from financial institutions.	Rubric
5	d	Students will use the Internet to see how one could seek assistance for credit problems and bankruptcy to achieve sound credit ratings.	Teacher-made test
6	a	Students will use the Internet to compare stocks and bonds.	Rubric
6	b	Students will compare/contrast different market economies (e.g., consumer, producer, etc.).	Teacher-made test
6	c	Students will write a research report discussing the advantages and disadvantages of stocks and shares, unit and investment trusts, individual savings accounts, and National savings.	Rubric
7	a	Teachers will give students an example of a given model car and have students explore three different automobile insurance companies' quotes. Students will decide which quote is the best value.	Rubric
8	a	Students will work in groups and setup a mock business in which they hire employees and sell items. Students will setup and maintain a book-keeping system for their company.	Rubric
8	b	Students will locate and research the IRS web site. They will examine different types of tax credits. Students will share findings with the class.	Rubric

**PERSONAL FINANCE, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
8	c	Students will secure copies of state and federal income tax forms and will complete them in class or online.	Rubric

## PROGRAMMING I—BEGINNING

### Grade Levels: 10-12

This course has been written with broad competencies so schools may choose their own programming language (i.e. Basic, Visual Basic, Visual [Basic.net](#), C, C++, Pascal, Java, Perl, Python, Cobol). This allows a student the opportunity to be enrolled in more than one entry-level Programming I course, either simultaneously or in different semesters.

Programming I—Beginning is an introductory level programming language designed to develop the skills needed to write simple programs. Students will write code to instruct the computer to perform specific tasks. Students will develop and improve logical thinking and decision-making skills. This course will benefit students who desire a better understanding of requirements needed to produce application software.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications; Algebra I

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Identify and explain the function of common programming structures. (C, IT)

- a. Develop programming problem-solving techniques.
- b. Develop a structured program cycle (top-down design, hierarchy chart, program design).

#### 2. Identify and define the coding task. (C, IT)

- a. Discuss terminology, semantics, and syntax associated with the chosen language.
- b. Distinguish between numeric and string data.
- c. Identify arithmetic operators, Boolean operators, simple functions, etc.

#### 3. Use application development tools to create code. (C, IT, EN)

- a. Identify the parts of the programming environment.
- b. Use controls (i.e. forms, buttons, graphics) to produce simple programs.

**4. Apply design principles to programming tasks. (C, IT, EN)**

- a. Prepare simple statements to produce output.
- b. Demonstrate use of formatting techniques.
- c. Demonstrate the ability to send output to screen, printer, or file.

**5. Code common tasks. (C, IT, EN)**

- a. Develop simple conditional statements.
- b. Develop simple loop structures.
- c. Create and execute simple menus and procedures.
- d. Demonstrate the ability to load tables, manipulate tables, and sort tables.

**6. Test and debug code. (C, IT)**

- a. Run program to check for errors.
- b. Analyze program for debugging purposes.

**PROGRAMMING I—BEGINNING, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will divide class into groups. The groups will be given a scenario to read and analyze. The groups will break the scenario into pseudo code. The groups will then flowchart the pseudo code. The flowcharts will allow students to make decisions based on the logic of the scenario. From the flowchart, students will write the section of programming code to correspond with the pseudo code. Teacher will read the flowchart, interpret logic errors, and analyze the programming code.	Rubric
2	a, b	Teacher will explain and demonstrate the difference between variable types. Students will identify string variables and numeric variables by listing each or by reading code.	Checklist for string and numeric variables
2	a, c	Students will be given a variety of simple statements (i.e. If Age >18 then .... else.... ) to evaluate. Without using the computer, students will evaluate statements and handwrite the output.	Output of statements will be evaluated for correctness
3	a, b	Teacher will discuss the programming environment while the students are at their computers. This will allow the students to locate and use various parts of the work environment. Students will create a simple program along with the teacher using basic tools.	Checklist/observation of the program output
4	a-c	Teacher will explain the importance of determining what output is expected of a program. Students will write a simple program to input the names of favorite foods and restaurants then print in columns to the printer. Teacher will assess the printed output for correctly entered data and proper formatting.	Rubric
5	a-c	Teacher will demonstrate the use of conditional statements, loop structures, and menus by showing students a program with all components. Then, students will be given a problem to solve that involves creating a user interface (menu) with the following items: input name, input grades, print output to screen including average, print output to printer including average. A counter and accumulator must be used within the program. Teacher will run the students' programs assessing for all coding components (i.e. menu, averaging correctly, printing correctly).	Rubric

**PROGRAMMING I—BEGINNING, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
5	d	Teacher will demonstrate how the computer holds data in table in the memory of the computer. The students will modify or rewrite the previous program to input the data into table(s) and then process the data after all data is gathered.	Rubric

## PROGRAMMING I--INTRODUCTORY

### Grade Levels: 10-12

This course has been written with broad competencies so schools may choose their own programming language (i.e. Basic, Visual Basic, Visual [Basic.net](#), C, C++, Pascal, Java, Perl, Python, Cobol). This allows a student the opportunity to be enrolled in more than one entry-level Programming I course, either simultaneously or in different semesters.

Programming I—Introductory is an introductory level programming language designed to develop the skills needed to write simple programs. Students will write code to instruct the computer to perform specific tasks. Students will develop and improve logical thinking and decision-making skills. This course will benefit students who desire a better understanding of requirements needed to produce application software.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications; Algebra I

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Identify and explain the function of common programming structures. (C, IT)

- a. Develop programming problem-solving techniques.
- b. Develop a structured program cycle (top-down design, hierarchy chart, program design).

#### 2. Identify and define the coding task. (C, IT)

- a. Discuss terminology, semantics, and syntax associated with the chosen language.
- b. Distinguish between numeric and string data.
- c. Identify arithmetic operators, Boolean operators, simple functions, etc.

#### 3. Use application development tools to create code. (C, IT, EN)

- a. Identify the parts of the programming environment.
- b. Use controls (i.e. forms, buttons, graphics) to produce simple programs.

**4. Apply design principles to programming tasks. (C, IT, EN)**

- a. Prepare simple statements to produce output.
- b. Demonstrate use of formatting techniques.
- c. Demonstrate the ability to send output to screen, printer, or file.

**5. Code common tasks. (C, IT, EN)**

- a. Develop simple conditional statements.
- b. Develop simple loop structures.
- c. Create and execute simple menus and procedures.
- d. Demonstrate the ability to load tables, manipulate tables, and sort tables.

**6. Test and debug code. (C, IT)**

- a. Run program to check for errors.
- b. Analyze program for debugging purposes.

**PROGRAMMING I—INTRODUCTORY, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will divide class into groups. The groups will be given a scenario to read and analyze. The groups will break the scenario into pseudo code. The groups will then flowchart the pseudo code. The flowcharts will allow students to make decisions based on the logic of the scenario. From the flowchart, students will write the section of programming code to correspond with the pseudo code. Teacher will read the flowchart, interpret logic errors, and analyze the programming code	Rubric
2	a, b	Teacher will explain and demonstrate the difference between variable types. Students will identify string variables and numeric variables by listing each or by reading code.	Checklist for string and numeric variables
2	a, c	Students will be given a variety of simple statements (i.e. If Age >18 then .... else.... ) to evaluate. Without using the computer, students will evaluate statements and handwrite the output.	Output of statements will be evaluated for correctness
3	a, b	Teacher will discuss the programming environment while the students are at their computers. This will allow the students to locate and use various parts of the work environment. Then students will create a simple program along with the teacher using basic tools.	Checklist/observation of the program output
4	a-c	Teacher will explain the importance of determining what output is expected of a program. The students will write a simple program to input the names of favorite foods and restaurants then print in columns to the printer. Teacher will assess the printed output for correctly entered data and proper formatting.	Rubric
5	a-c	Teacher will demonstrate the use of conditional statements, loop structures, and menus by showing students a program with all components. Then students will be given a problem to solve that involves creating a user interface (menu) with the following items: input name, input grades, print output to screen including average, print output to printer including average. A counter and accumulator must be used within the program. Teacher will run the students' programs assessing for all coding components (i.e., menu, averaging correctly, printing correctly).	Rubric

**PROGRAMMING I—INTRODUCTORY, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
5	D	Teacher will demonstrate how the computer holds data in table in the memory of the computer. Students will modify or rewrite the previous program to input the data into table(s) and then process the data after all data is gathered.	Rubric
6	a, b	The teacher will give students criteria for a complete program. Example: Students will write a program to calculate an employee's salary with all components needed to complete program weekly pay. If the employee works over 40 hours, then the employee will receive time-and-a-half. The program will also print a check and stub to the printer.	Rubric with all components needed to complete program

## PROGRAMMING I - FOUNDATIONS

### Grade Levels: 10-12

This course has been written with broad competencies so schools may choose their own programming language (i.e. Basic, Visual Basic, Visual [Basic.net](#), C, C++, Pascal, Java, Perl, Python, Cobol). This allows a student the opportunity to be enrolled in more than one entry-level Programming I a course, either simultaneously or in different semesters.

Programming I - Foundations is an introductory level programming language designed to develop the skills needed to write simple programs. Students will write code to instruct the computer to perform specific tasks. Students will develop and improve logical thinking and decision-making skills. This course will benefit students who desire a better understanding of requirements needed to produce application software.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: 8<sup>th</sup> Grade Computer Discovery or Keyboarding and Computer Applications; Algebra I

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Identify and explain the function of common programming structures. (C, IT)

- c. Develop programming problem-solving techniques.
- d. Develop a structured program cycle (top-down design, hierarchy chart, program design).

#### 2. Identify and define the coding task. (C, IT)

- a. Discuss terminology, semantics, and syntax associated with the chosen language.
- b. Distinguish between numeric and string data.
- c. Identify arithmetic operators, Boolean operators, simple functions, etc.

**3. Use application development tools to create code. (C, EN, IT)**

- a. Identify the parts of the programming environment.
- b. Use controls (i.e. forms, buttons, graphics) to produce simple programs.

**4. Apply design principles to programming tasks. (C, EN, IT)**

- a. Prepare simple statements to produce output.
- b. Demonstrate use of formatting techniques.
- c. Demonstrate the ability to send output to screen, printer, or file.

**5. Code common tasks. (C, EN, IT)**

- a. Develop simple conditional statements.
- b. Develop simple loop structures.
- c. Create and execute simple menus and procedures.
- d. Demonstrate the ability to load tables, manipulate tables, and sort tables.

**6. Test and Debug Code. (C, IT)**

- a. Run program to check for errors.
- b. Analyze program for debugging purposes.

**PROGRAMMING I - FOUNDATIONS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will divide class into groups. The groups will be given a scenario to read and analyze. The groups will break the scenario into pseudo code. The groups will then flowchart the pseudo code. The flowcharts will allow students to make decisions based on the logic of the scenario. From the flowchart, students will write the section of programming code to correspond with the pseudo code. Teacher will read the flowchart, interpret logic errors, and analyze the programming code.	Rubric
2	a, b	Teacher will explain and demonstrate the difference between variable types. The students will identify string variables and numeric variables by listing each or by reading code.	Checklist for string and numeric variables
2	a, c	Students will be given a variety of simple statements (i.e. If Age >18 then .... else.... ) to evaluate. Without using the computer, students will evaluate statements and handwrite the output.	Output of statements will be evaluated for correctness
3	a, b	Teacher will discuss the programming environment while the students are at their computers. This will allow the students to locate and use various parts of the work environment. Students will create a simple program along with the teacher using basic tools.	Checklist/observation of the program output
4	a-c	Teacher will explain the importance of determining what output is expected of a program. Students will write a simple program to input the names of favorite foods and restaurants then print in columns to the printer. Teacher will assess the printed output for data entered correctly and proper formatting.	Rubric
5	a-c	Teacher will demonstrate the use of conditional statements, loop structures, and menus by showing students a program with all components. Then students will be given a problem to solve that involves creating a user interface (menu) with the following items: input name, input grades, print output to screen including average, print output to printer including average. A counter and accumulator must be used within the program. Teacher will run the students' programs assessing for all coding components (i.e., menu, averaging correctly, printing	Rubric

**PROGRAMMING I - FOUNDATIONS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
5	d	<p>correctly).</p> <p>The teacher will demonstrate how the computer holds data in table in the memory of the computer. Students will modify or rewrite the previous program to input the data into table(s) and then process the data after all data is gathered.</p>	Rubric
6	a, b	<p>Teacher will give students criteria for a complete program. Example: Students will write a program to calculate an employee's salary with all components needed to complete program weekly pay. If the employee works over 40 hours, then the employee will receive time-and-a-half. The program will also print a check and stub to the printer.</p>	Rubric with all components needed to complete program

## PROGRAMMING II

### Grade Levels: 11-12

Programming II has been written with broad competencies in order to offer students the opportunity for further study of a Programming I course (Beginning, Introductory, and Foundations). This course will continue the study of the programming language designated by the school.

Programming II is an upper-level programming language designed for students who intend to pursue advanced programming languages in Institutions of Higher Learning (IHL). The course is a continuation of Programming I course (e.g. Basic, Visual Basic, Visual [Basic.net](#), C, C++, Pascal, Java, Perl, Python, Cobol). Students will use this course to explore in-depth topics, such as understanding computer systems, developing advanced programming techniques and files, and generating error traps. The competencies are written so that they may be adapted to any advanced programming language.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Programming I ( Beginning or Introductory or Foundations)

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Review application development tools to create code. (C, IT)

- a. Identify the parts of the programming environment.
- b. Use controls (i.e. forms, buttons, graphics) to produce simple programs.

#### 2. Develop an understanding of advanced programming techniques. (C, IT)

- a. Develop multi-dimensional arrays/tables.
  - 1) Use advanced search routines.
  - 2) Use advanced sort techniques.
- b. Describe and use advanced functions.

#### 3. Develop files or databases. (C, EN, IT)

- a. Discuss file characteristics.

b. Create and use files or databases.

**4. Generate error traps. (C, EN, IT)**

- a. Construct and use data validation methods.
- b. Formulate techniques for correcting device errors.

**ADVANCED PROGRAMMING, 11-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will discuss the programming environment while students are at their computers. This will allow students to locate and use various parts of the work environment.	Checklist
2	a, b	Teacher will demonstrate how to create and load a multi-dimensional table. Teacher will have students gather data (e.g., name, age, date of birth, grade, telephone number) from 25 peers. Students will write code to create and load a multi-dimensional table. Various menu options will be displayed for the users (e.g., print all data, search by name, sort and print data).	Rubric
3	a	Teacher will open a database file and discuss how data is organized (records, fields, data types, etc.). Example: One table within a database for your school might include data on student names, courses, teachers, and classroom numbers. Within this table, the data is organized into records. Every record is one complete entry. Records are further subdivided into fields with data types.	Rubric for the components to access database correctly and print only information requested
3	b	Students will access a database file created by the teacher to extract and print various information. (Example: Student program will have an option to print student names and classroom numbers.)	Rubric
4	a, b	Teacher will run an example program correctly answering the prompts on the screen (name, age). Teacher will run the same program answering the prompts on the screen incorrectly. This will allow students to understand the necessity of data validation and the importance of a good user interface. Students will write a program to include validation methods, run the program, and debug the program.	Rubric

## RESEARCH USING TECHNOLOGY'S INFORMATION TOOLS

### Grade Levels: 10-12

Research Using Technology's Information Tools is a research-oriented course. The students will develop the skills needed to use information tools such as the Internet, Computer Disk Read-Only Memory (CD-ROM), Laser Disc, etc. Students will become responsible and ethical users of technology while being encouraged to stay current as emerging technologies develop. Although creative research methodologies are part of the course design, unrestricted browsing of the Internet is not encouraged.

This course is designed to be a one-semester course, .5 credit course.

Prerequisites: Word Processing

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

- 1. Demonstrate an understanding of the basic terminology, history, and development of information tools. (CO, CP, IT)**
  - a. Define terminology associated with technology-based information tools.
- 2. Demonstrate knowledge of legal and ethical issues associated with the use of information tools. (B, CO, IB, IT, M)**
  - a. Demonstrate acceptable Internet etiquette (Netiquette).
  - b. Demonstrate understanding of the significance of an Internet Acceptable Use Policy (AUP).
  - c. Demonstrate knowledge of Copyright legislation, Trademark infringement, Children's Internet Protection Act (CIPA), and other federal laws associated with the access and use of information tools.
- 3. Identify and demonstrate an understanding of the Internet and the World Wide Web. (CO, IB, IT, M, MK)**
  - a. Identify terminology differentiate between the Internet and the World Wide Web.

**4. Identify and demonstrate an understanding of web browsers and search engines. (CO, IT)**

- a. Compare and contrast browsers and search engines.

**5. Develop skills necessary to use technology's information tools. (CO, IT, IB)**

- a. Access information on the Internet using various search methods.
- b. Access information on CD-ROM/Laser Discs.

**6. Demonstrate proficiency in gathering and analyzing information for research purposes. (CO, EN, IB, IT, M)**

- a. Develop an understanding of credible information sources and apply these principles in evaluating information sources.
- b. Research, assimilate information, and prepare a final project/report.

**RESEARCH USING TECHNOLOGY'S INFORMATION TOOLS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a	Teacher will discuss with students various terms related to technology-based information tools. Students will divide into groups and use flash cards to recall terminology.	Observation
2	a, b	Students will divide into groups to debate various issues related to acceptable Internet usage and Netiquette rules.	Observation
2	c	Students will divide into groups and research teacher-assigned projects dealing with Copyright legislation, Trademark infringement, CIPA and various other topics. Groups will prepare a presentation for the class giving results of their research.	Rubric
3	a	Students will gather into teacher-assigned groups and will create a Venn Diagram using characteristics of the Internet and the World Wide Web.	Checklist
4	a	Students will prepare a project, comparing, and contrasting the differences between a web browser and a search engine.	Rubric
5	a, b	Students will be assigned a project to research, using both the Internet and CD-ROM databases. They will prepare a MLA report detailing the results of their research.	Rubric
6	a	Students will gather information from five different credible sources on a given topic, evaluate the sources, determine their top three choices, and write a brief explanation defending their selections.	Rubric
6	b	Students will research information (i.e., the Boston Tea Party). As students complete research, they will prepare hard copies of their findings and return to their class. Students will prepare a final report.	Checklist

## **TELECOMMUNICATIONS**

### **Grade Levels: 10-12**

Telecommunications provides students with an understanding of electronic communication. Students will access online information and communicate using electronic mail. The students will also develop the skills needed to use information tools such as online databases, web sites, etc. Students will become responsible and ethical users of technology while being encouraged to stay current as emerging technologies develop.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Demonstrate an understanding of basic telecommunications concepts. (IT)**

- Define terms associated with telecommunications to include: electronic mail, teleconferencing, file transfer, network, modem, host computer, uploading, downloading, Local Area Network (LAN), Wide Area Network (WAN), Internet, Netiquette, and online.
- Identify major events in the history of telecommunications and the Internet.

#### **2. Compare various connectivity options (e.g., Integrated Services Digital Network (ISDN), Cable, T1, etc.) (IT)**

- Discuss connectivity pricing.
- Discuss connectivity speed.
- Discuss connectivity availability.

#### **3. Identify factors influencing online safety. (IT)**

- Discuss antivirus software.
- Discuss firewalls.
- Discuss personal safety (i.e., caution using chatrooms).
- Discuss e-commerce, banking, and online shopping.

**4. Communicate using electronic mail. (IT)**

- a. Demonstrate the following:
  - 1. Send, read, and reply to messages.
  - 2. Forward messages.
  - 3. Create address book entries.
  - 4. Create groups in the address book.
  - 5. Create folders.
  - 6. Send and view attachments.
- b. Compare and contrast the features of e-mail providers.

**5. Identify techniques for researching information on the World Wide Web. (IT)**

- a. Discuss the more popular search engines (e.g., Google, Yahoo).
- b. Discuss techniques for reducing the number of “hits” or results.
- c. Identify methods for choosing more reliable information.
- d. Access an online database.

**6. Demonstrate techniques for downloading and using files from the Internet. (IT)**

- a. Discuss downloading programs, plug-ins.
- b. Discuss compression programs (e.g., Winzip, StuffIt, etc.).
- c. Discuss image formats and steps for downloading them.
- d. Discuss viewing various audio and video formats (e.g., Real, QuickTime, etc.).
- e. Discuss legal issues regarding downloading various file types.

**7. Discuss forms of communication. (IT)**

- a. Discuss mailing lists.
- b. Discuss USENET newsgroups.
- c. Discuss teleconferencing.
- d. Discuss cell phones.

**TELECOMMUNICATIONS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Teacher will discuss telecommunication terms and historical events. He/she will then use flash cards dealing with the terms. Class will be divided into two groups. Points will be awarded for correct answers to the winning group. Students will complete a worksheet/crossword on terminology and/or events.	Observation/key
2	a-c	Teacher will explain the differences between the various connectivity options. Students will research options for connectivity in their area. Findings will be shared in a group discussion. Teacher will explain how they differ from other options that may or may not be available in their area.	Observation
3	a, b	Teacher will discuss the need for using antivirus and firewall software and the importance of keeping it updated. Teacher will guide the students through updating the antivirus and firewall software programs.	Observation
3	c	Students will analyze a list of online situations to identify potential safety concerns.	Checklist
3	d	With the teacher acting as a facilitator, the students will access their web browsers to view a web site that identifies strategies for remaining safe while shopping online. Afterwards, they will summarize their findings on paper.	Rubric
3	d	Students will visit a price comparison site to find the best price for a list of products.	Checklist
4	a	Students will reply to a message and send a cc to the teacher.	Checklist
4	a	Students will forward a message from his/her inbox to the teacher.	Checklist
4	a	Students will e-mail the teacher directions for creating address book entries and folders.	Checklist
4	a	Students will send the teacher an attachment that discusses his/her view on a controversial topic.	Checklist

**TELECOMMUNICATIONS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	b	Teacher will provide students with a list of free e-mail providers. Students will register for at least two accounts. Afterwards, students will experiment using both accounts and submit their findings to the teacher via e-mail.	Rubric
5	a-c	Using popular search engines, teacher will guide students through techniques for eliminating unwanted search. Using the techniques for reducing the number of results, students will complete an Internet scavenger hunt. With the teacher acting as a facilitator, students will access their web browser to view a web site that demonstrates techniques for judging the credibility of another site's information. Students will evaluate each of the sites they used in their scavenger hunt and report their findings on paper.	Observation
5	d	Teacher will guide students through using an online database (e.g., MAGNOLIA). Students will use the database to find articles on an assigned topic.	Rubric
6	a	Teacher will guide students through finding and downloading a specific piece of software. Teacher will differentiate between freeware, shareware, etc.	Observation
6	b	Teacher will discuss the importance of file compression, various compression programs and how they differ and will guide students through compressing files.	Checklist
6	c	Students will visit a free clip art site and download both JPG and GIF images, saving them to his/her folder.	Checklist
6	d	Teacher will discuss previously used media formats and identify new formats. The class will identify media players needed to view given media formats.	Checklist
6	e	Students will use search engines and/or online databases to conduct research on legal cases concerning Internet downloads. Findings will be submitted in a brief report. Students will create a presentation (e.g., PowerPoint) on lawsuits against various types of Internet downloading (e.g., MP3's, movies, software).	Rubric
7	a	Teacher will define mailing lists and discuss how they work.	Rubric

**TELECOMMUNICATIONS, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
7	b	Students will register for a mailing list. Students will read the mailing list introduction and then identify the process (on paper) for submitting messages and unsubscribing from the list.	Observation
7	c	Students will create a chart differentiating between mailing lists and USENET newsgroups.	Rubric
7	d	Students will research the least expensive hardware and software needed for teleconferencing. Research findings will be submitted on paper.	Observation
7	d	Teacher will explain that telecommunications involves more than the Internet. Teacher will also provide examples of additional forms of telecommunications. Students will use his/her favorite search engine to research how cell phones work. Research findings will be used to create a poster showing how a signal is transferred from one phone to another.	Observation
7	d	Students will discuss the features of today's cell phones.	Rubric
7	d	Students will analyze a set of cell phone brochures to determine which plan or provider would be the best choice for a list of given situations.	Observation

## **WEB PAGE DESIGN I**

### **Grade Levels: 10-12**

Web Page Design I is an introductory course that examines basic Hypertext Markup Language (HTML) editors and web publishing software. Course skills will include learning the essential ways to develop a web site and the evaluation of several HTML web publishing packages.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Identify and demonstrate an understanding of the Internet and World Wide Web. (IT)**

- a. Identify terminology associated with the Internet and the World Wide Web.
- b. Identify the main elements of web browsers (tool bar, location bar, menus) and search engines (search bar, how to display results, where help is located).
- c. Compare and contrast browsers and search engines.
- d. Identify the basic parts of a web page (e.g., graphics, text, hyperlinks, animated gifs, etc.).
- e. Identify image formats (e.g., jpg, gif, etc.).
- f. Identify site structure (e.g., folders, files, etc.).

#### **2. Identify and demonstrate knowledge of basic HTML coding. (IT)**

- a. Identify basic HTML terminology (e.g, code, tags, attributes, etc.).
- b. Identify the basic structure.
- c. Identify and demonstrate the use of additional basic tags (e.g., bold, italics, links, images, etc.).
- d. Identify and demonstrate the use of tag attributes.
- e. Identify and demonstrate advanced HTML tags (e.g., tables, frames, anchors, etc.).

#### **3. Identify and demonstrate techniques for designing web graphics. (IT)**

- a. Differentiate between formats (e.g., jpg, gif, animated gif, png, etc.).
- b. Identify techniques for choosing an image format.

c. Identify and demonstrate techniques for optimizing images.

**4. Identify and demonstrate techniques and strategies for the planning and development of a web site. (IT)**

- a. Discuss factors that impact the direction of a web site (e.g., target audience, available resources, etc.).
- b. Discuss storyboarding techniques.
- c. Discuss navigational efficiency.
- d. Discuss strategies for maintaining and increasing your audience.

**5. Identify and demonstrate the use of visual tools (Macromedia Dreamweaver and Microsoft FrontPage, etc.). (IT)**

- a. Identify and demonstrate basic features of visual tools.
- b. Demonstrate how to edit the code generated by visual tools.

**6. Discuss legal and ethical aspects associated with web site development. (B)**

- a. Discuss Copyright laws pertaining to content.
- b. Discuss legal and ethical situations involved in obtaining information from web visitors.

**7. Create and publish a web site. (IT)**

- a. Plan the web site.
- b. Develop web pages.
- c. Upload site to the web.

**WEB PAGE DESIGN I, 10-12**

<b>Comp.</b>	<b>Obj.</b>	<b>Suggested Teaching Strategies</b>	<b>Suggested Assessments</b>
1	a-c	Students will develop a brochure that provides an overview of the Internet ad search engines. The brochure will also contain comparisons of web browsers and search engines.	Rubric
1	d-f	Students will analyze a teacher-provided web page to identify various components.	Rubric
2	a	Teacher will identify common terminology used in HTML. He/she will then use flash cards to quiz the class.	Rubric
2	a-d	Teacher will identify basic HTML structure and simple tags. Students will create a HTML web page using Notepad and include HTML basic structure, simple and advanced tags.	Rubric
3	a	Students will discuss differences between common image formats. Teacher will correct student responses.	Observation
3	b	Students will identify the appropriate format for a given situation (e.g., the format to use when saving a photo).	Observation/checklist
3	c	Teacher will guide students to a web site that lists techniques for optimizing (e.g., color depth and transparency) web graphics. Students will identify steps that could be taken to optimize a set of graphics provided by the teacher.	Checklist
4	a-d	Students will analyze a teacher-provided web site and will evaluate their design choices. Students will consider the web site's target audience, effective planning, and effective navigation.	Checklist
5	a, b	Teacher will guide students through the basic features of visual tools. Students will reproduce a set of pages using visual tools. Teacher will demonstrate steps for editing the code of a web page created by visual tools. Students will complete a list of changes to their pages.	Rubric
6	a	Teacher will provide students with examples of lawsuits involving the use of various media. Students will discuss why these actions were illegal and how the problems could have been avoided.	Observation

**WEB PAGE DESIGN I, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
6	b	<p>Students will use a search engine or online database to research online privacy and factors companies/web developers must consider in requesting personal information from visitors to their site. Students will then create a web page to share their findings with the class.</p>	<p>Rubric</p>
7	a-c	<p>Students will create and post a web site on a teacher-assigned topic.</p>	<p>Rubric</p>

## **WEB PAGE DESIGN II**

### **Grade Levels: 10-12**

Web Page Design II is designed to expand on the material taught in Web Page Design I. Students will take a more detailed look at the visual tools, site development/planning process, and web hosting services. Students will also develop a site on an assigned topic.

This course is designed to be a one-semester, .5 credit course.

Prerequisites: Web Page Design I

### **CONTENT STRANDS:**

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### **COMPETENCIES and Suggested Objective(s):**

#### **1. Identify web page design considerations. (IT)**

- Discuss considerations for site structure (e.g., folder names) and file names (e.g., lowercase vs. uppercase and spaces in file names).
- Discuss the need for determining the site objectives and target audience.
- Identify strategies to keep your audience.
- Identify strategies for maximizing site accessibility.

#### **2. Identify techniques for improving the design and functionality of a site. (IT)**

- Identify the importance of color choices.
- Compare and contrast media choices (e.g., pictures, audio, Flash, etc.).
- Identify factors in designing site navigation.
- Discuss other design considerations.

#### **3. Demonstrate an understanding of advanced web page authoring software features. (IT)**

- Compare and contrast the features/reviews of various web page authoring software.

#### **4. Demonstrate an understanding of advanced image editing software. (IT)**

- Compare and contrast the features/reviews of various image editing software.

**5. Demonstrate an understanding of additional media development programs. (IT)**

- a. Identify steps for creating/editing audio or video for a web site.
- b. Identify advanced features of animation programs.

**6. Identify legal and ethical aspects associated with using technology for research and in preparation of publications. (B)**

- a. Develop awareness of Copyright laws pertaining to content.
- b. Identify legal alternatives for adding media to a web site.

**7. Demonstrate an understanding of maintaining a site. (IT)**

- a. Discuss File Transfer Protocol (FTP).
- b. Discuss the steps for posting a site.
- c. Discuss how changing site structure affects content on the web pages.

**8. Create and publish a web site. (IT)**

- a. Plan the web site.
- b. Develop web pages.
- c. Upload site to the web.

**WEB PAGE DESIGN II, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a-d	Students will create a presentation on factors to consider when planning a web site. The class will critique presentations and identify any additional factors to consider.	Checklist
2	a	Teacher will discuss the importance of considering color (e.g., conveying a mood or image and improving the readability) when designing a web site. Students will discuss their favorite colors and what they feel those colors symbolize.	Observation
2	b	Teacher will discuss steps for determining which media to use for web site content. Students will identify the appropriate media for a list of example content provided by the teacher.	Observation
2	c	Students will evaluate the navigation of web sites provided by the teacher. In the evaluation, students will explain why their navigation is or is not effective. They will also discuss suggestions for improving the navigation.	Checklist
2	d	Students will discuss other characteristics of their favorite and least favorite sites.	Observation
3	a	Students will use the World Wide Web to find reviews and features of several visual tools. In a written article, students will identify the industry leader. They will also compare and contrast that package with at least two other popular packages.	Rubric
4	a	Students will use the World Wide Web to find reviews and features of several web graphic editors. In a written article, students will identify the industry leader. They will also compare and contrast that package with at least two other popular packages.	Rubric
5	a	Teacher will guide students through creating and editing audio for a web site. Students will develop audio to integrate into a pre-designed web site (provided by the teacher).	Rubric

**WEB PAGE DESIGN II, 10-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
5	b	Teacher will guide students through using the features of an animation program. Students will create animation files using the features discussed in the teacher's lecture.	Rubric
6	a, b	Students will examine online articles on legal cases to determine whether legal problems typically revolve around the content or the media format (e.g., Are all MP3's illegal?). Students will complete a handout where they identify problems as being format or content. Students will list legal alternatives for each of the problems.	Checklist
7	a, b	Teacher will discuss FTP and guide students through registering for a free account. Teacher will guide students through using FTP to manage and post files to their server space. Students will upload another set of files to a different location (e.g., a different folder).	Rubric
7	c	Teacher will discuss the impact of changing a file or folder name within a site. Teacher will also guide the students through repairing bad links to files or folder that have been moved or renamed. Students will repair another site provided by the teacher.	Observation
8	a-c	Students will develop a web site. Students will write a report detailing the reasons the choices (e.g., target audience, navigation, media) he/she made when designing his/her site.	Rubric

## WORD PROCESSING

### Grade Levels: 9-12

Word Processing prepares the student with word processing skills for personal use, use in the work place, and use in postsecondary education. Introductory keyboarding skills are refined through continued use of the keyboard. The student's use of formatting techniques is enhanced through the creation of documents such as letters, reports, memos, and tables. Through document preparation, students master specialized software functions and produce original projects using advanced skills.

This course is intended to be a one-semester, .5 credit course.

Prerequisites: Keyboarding and Computer Applications or 8<sup>th</sup> Grade Computer Discovery

### CONTENT STRANDS:

(A-Accounting)	(B-Business Law)	(C-Career Development)
(CO-Communication)	(CP-Computation)	(EP-Economics and Personal Finance)
(EN-Entrepreneurship)	(IT-Information Technology)	
(IB-International Business)	(M-Management)	(MK-Marketing)

### COMPETENCIES and Suggested Objective(s):

#### 1. Review basic operating skills for using computers. (C, CO, IT, M)

- Review terminology associated with computers.
- Review the precautions and care related to the proper use of computers and accessories.
- Review the ability to set up and adjust a simple computer system.

#### 2. Review appropriate, word processing software and operating systems. (C, CO, IT, M)

- Identify and interpret terminology specific to word processing.
- Illustrate use of special keys or pull-down menus.
- Identify various types storage media available to the class.
- Save and retrieve files.

#### 3. Develop speed, accuracy, language, proper formatting and proofreading techniques. (C, CO, IT, M)

- Recognize and apply formatting and editing techniques such as justification, margins and tabs, indents, centering, fonts and styles, and line spacing to various documents (letters, envelopes, reports, tables, etc.)

- b. Recognize and apply document-formatting features such as headers, footers, page numbering, etc.
- c. Perform the functions of inserting/deleting text, selecting copy, copying/moving text, and finding/replacing text.
- d. Periodically key and proofread timed writings.

**4. Create, format (e.g., memorandums, reports, business letters), and edit documents. (C, CO, IT, M)**

- a. Apply formatting and editing techniques to various documents that may include letters, envelopes, reports, memos, and/or tables.

**5. Demonstrate knowledge of legal and ethical aspects associated with word processing. (B, C, CO, IT, M)**

- a. Discuss Copyright laws pertaining to using software applications and source documents.
- b. Identify situations where use of word processing software might be ethically questionable.

**6. Create specialized projects using advanced word processing software techniques. (C, CO, IT, M, MK)**

- a. Determine project requirements and produce a final project.

**WORD PROCESSING, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
1	a, b	Students will use an identification worksheet to recall basic functions: typing, saving documents, opening documents, copying, pasting, cutting, printing, and checking spelling.	Checklist
1	c	Teacher will demonstrate the proper procedure for adjusting controls, and loading paper into the printer, etc. Students will open word processor by single or double clicking on the icon of the software. Students will type a (teacher-assigned) paragraph under "blank document." To indent the paragraph, students will use the tab key instead of the space bar.	Observation
2	a-c	The teacher will demonstrate the proper procedure for inserting a 3.5-inch floppy diskette into the floppy drive. Teacher will describe the rules for naming and saving files used with an operating system. Teacher will demonstrate the procedures for accessing different disk drives in a computer system and fundamental operating system commands. Students will write a story, poem, or rap using word processing terms, and present to the class.	Teacher Observation
3	A	Students, working in pairs, ask the other student teacher-prepared questions concerning the correctness of each other's work. Students will complete a worksheet.	Checklist
3	b	Students will add page numbering to a multi-page report.	Rubric
3	c	Direct Students will retrieve a teacher-selected file and complete the following operations: search for a specific word and replace every occurrence of that word with a teacher-selected word, move the first sentence of a paragraph to another position, and insert additional words and then delete those words.	Checklist
3	d	Students will identify and correct errors while revising documents. Class will divide into pairs of students. One student will read instructions for setting the margin, while the partner performs the operations.	Rubric/observation
3	d	Students will take 1', 3' and/or 5' timed writings, use proofreader's marks to correct and re-key the timed writings.	Observation

**WORD PROCESSING, 9-12**

Comp.	Obj.	Suggested Teaching Strategies	Suggested Assessments
4	a	Students will bring to class letters and envelopes displaying at least two different letter and punctuation styles. Students will identify the letter and punctuation style for letters. Students will choose one of the identified letter and punctuation styles to create a letter provided by teacher (in unarranged form).	Rubric
5	a, b	Students will role-play situations concerning Copyright laws pertaining to source documents.	Observation
6	a	Students will be mock employees of a publishing company. Teacher will supply students with a rough draft of a new booklet that is to be published by the company. Students will key in the information, separating it into chapters, with appropriate documentation and headers. Students will also create a table of contents, an index, and appendix for the book. In addition, they will design a book cover using graphic features of the word processing software.	Rubric
6	a	Students will be employed as word processors at a local medical clinic. The teacher will supply them with information about patients (e.g., diagnosis, visits, billing, addresses, medical history, etc.). The “employees” will create a data file of all patients from this information. They will also generate merged documents for patients’ medical folders, billing invoices, appointment information, insurance information, etc.	Rubric

## TECHNOLOGY CONNECTIONS

The *Technology Connections* section is designed to serve as a starting point for investigation into using technology in the instructional program. The Mississippi Department of Education does not endorse or recommend purchasing the following resources. The Mississippi Department of Education suggests that all resources be thoroughly reviewed to accommodate the needs of individual school districts. Please note that technology changes on a daily basis; therefore, web sites, software, videos, etc., which may be current on a given day, may not be current the next. Keep this in mind when using this as a resource.

### VIDEOS

<http://www.teachersvideo.com/>

Merchants of Cool. 2003. Running Time: 60 minutes.

<http://www.teachersvideo.com/>

Basics: Accounting. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Running Ledgers. 2002. Running Time: 26 minutes.

<http://wwwteachersvideo.com/>

Accounting Tools. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Income Statements. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Preparing an Income Statement. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Applications. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Business Accounting. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Account Management. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Coca-Cola: History of an American Icon. 2002. Running Time: 106 minutes.

<http://www.teachersvideo.com/>

Basics: Marketing. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Persuasion: Marketing. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Target Consumers. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Basics: Finance. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Assets and Liabilities. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Money Management. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Investing. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Diversification. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Bonds. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Finance: Important Concepts. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Cost. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Corporate Finance. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Raising Capital. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Global Marketplace. 2002. Running Time: 50 minutes.

<http://www.teachersvideo.com/>

Basics: Business Law. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Torts. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Contract Law. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

A Dangerous Business. 2002. Running Time: 60 minutes.

<http://www.teachersvideo.com/>

Right to Privacy? Discovery School. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Breaking the Deal. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Money Basics. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Saving Strategies. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Planning Your Time: Master Schedule. 2002. Running Time: 30 minutes.

<http://www.teachersvideo.com/>

Interviewing: Getting Ready. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Interviewing: Putting Your Best Foot Forward. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Conquering Stage Fright. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Dynamic Delivery. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Basic Layout: Resumes and Cover Letters. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Standing Out: Resumes and Cover Letters. 2002. Running Time: 26 minutes.

<http://www.teachersvideo.com/>

Masters of Technology. 2002. Running Time: 150 minutes.

## WEB SITES

### General:

<http://marcopolo.mde.k12.ms.us/frameworks.html>

<http://library.mssstate.edu/magnolia/>

<http://www.brint.com/>

<http://www.secretarial.com/meetings-tutorial.htm>

<http://www2.drury.edu/dswadley/101/index.html>

<http://www.officedepot.com/businesscenter.do>

<http://tutorials.freescills.com/index/category/96>

<http://www.internet4classrooms.com/on-line2.htm>

<http://www.tutorcenter.com/advscripts/default.asp>

<http://www.actden.com/pp/>

<http://infocomp.csuchico.edu/metis/fundamental/start.htm>

<http://math.about.com/gi/dynamic/offsite.htm?site=http%3A%2Fwww.acad.humberc.on.ca%2F%7Emartinov%2FCHAPTER6.html>

<http://www.learner.org/exhibits/dailymath/>

<http://www.ideasandtraining.com/Business-Training-Games.html>

<http://www.forio.com/lead.htm>

<http://teacherline.pbs.org/teacherline/>

[www.nctm.org](http://www.nctm.org)

<http://cnets.iste.org>

<http://www.hprtec.org>

[www.4kids.org](http://www.4kids.org)

[www.4teachers.org](http://www.4teachers.org)

<http://school.discovery.com>

<http://nausetschools.org/research/works2.htm>

<http://www.marcopolo-education.org/>

<http://www.customguide.com/downloads.htm>

<http://webquest.org/>

<http://www.findtutorials.com>

Free rubrics: <http://rubistar.4teachers.org/index.php>

Free rubrics: [http://teach-nology.com/web\\_tools/rubrics](http://teach-nology.com/web_tools/rubrics)

### **Accounting:**

Taxes: <http://www.irs.gov/app/understandingTaxes/jsp/sstudenttutorials.jsp>

Insurance: <http://www.ief.org/2001/Materials/Book.pdf>

[http://www.101financiallessons.com/samples\\_of\\_our\\_lesson\\_plans\\_as\\_t.htm](http://www.101financiallessons.com/samples_of_our_lesson_plans_as_t.htm)

Accounting: <http://www.accounting-help.com/menu.htm>

<http://www.bboinc.com/actghome/studentlearningcenter.htm>

<http://www.csun.edu/~vcact00g/sim.html>

Accounting lesson plans/activities: <http://www.angelfire.com/ks/tonyaskinner/acctg.html>

Great ideas for teaching Accounting: [http://www.swcollege.com/vircomm/gita/gita\\_main.html](http://www.swcollege.com/vircomm/gita/gita_main.html)

### **Advanced Software Topics:**

<http://www.linux.org/apps/>

Tips for effective PowerPoint presentations: <http://www.microsoft.com/office/using/column08.asp>

PowerPoint tutorials: <http://www.microsoft.com/downloads/2000/animtechnqs.aspx>

<http://www.websitestates.com/links.html>

<http://www.presentations.com/presentations/index.jsp>

Downloads: <http://www.graphicsland.com/powerpoint-templates.htm>

PowerPoint tutorials: <http://www.electricteacher.com/tutorial3.htm>

<http://homepage.cs.uri.edu/tutorials/csc101/powerpoint/ppt.html>

<http://www.actden.com/pp/>

### **Business Law:**

Business plans: <http://www.business-plan-help.com/sample-business-plan-template.html>

Cafeteria plans: [http://www.profilepeo.com/cafeteria\\_plan.htm](http://www.profilepeo.com/cafeteria_plan.htm)

Benefits: <http://www.flexbene.com/flexiblebenefits.html>

Career information: <http://careers.org>

Occupational Outlook Handbook: <http://www.bls.gov/oco/>

Careers in Business: <http://www.careers-in-business.com>

Safety: <http://www.osha.org>

Time management: <http://www.tellmemytype.com>

Ergonomics: <http://www.mavisbeacon.com/ergolink.htm#Carpal%20Syndrome>

Office safety: <http://www.cdc.gov/od/ohs/manual/ofcsfty.htm>

Workplace ethics: <http://www.angelfire.com/ks/tonyaskinner/ethics.html>

### **Career Development:**

<http://www.ncda.org/>

Jobs: <http://www.monsterboard.com>

<http://careers.com>

Occupational Outlook Handbook (OOH): <http://www.umsl.edu/services/govdocs/ooH20002001/8.htm>

Resúme tutor: <http://www1.umn.edu/ohr/ecep/resume/>

Job interview tips: <http://jobsontheweb.com/tips.htm>

<http://www.aresumes.com/jobmarket.htm>

<http://nycareerzone.org/flash/index.jsp>

Job interview tips: <http://www.collegegrad.com>

11 steps in career transition: <http://www.careerlab.com/art11steps.htm>

### **Certified Advanced Networking (CAN) I-IV:**

Networking: <http://www.intel.com>

<http://www.cisco.com/>

<http://www.anc1.com/>

### **Computation in Business:**

<http://www.nbea.org/curfbes.html>

National Endowment for Financial Education: <http://www.nefe.org>

National Foundation for Consumer Credit: <http://www.nfcc.org>

### **Communications in Business:**

Telephone: <http://www.businessknowhow.com/marketing/betterphone.htm>

<http://www.westwords.com/GUFFEY/teltechs.html>

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<http://www.workshopsinc.com/manual/TOC.html#Telephone>

Euphemisms: <http://www.westwords.com/GUFFEY/euquiz.html>

Listening: <http://content1.skillsoft.com/content/Content/COMM0103A1.htm>

Public speaking: <http://www.abacon.com/pubspeak/>

Business English exercises: <http://www.better-english.com/exerciselist.html>

Leadership: <http://www.brainbench.com/business>

Etiquette: [http://www.hbcollege.com/management/students/bus\\_etiquette.htm](http://www.hbcollege.com/management/students/bus_etiquette.htm)

Time management: <http://friendlyware.bizland.com/dtm/schd1InPrcts.htm>

Developing a time management plan: <http://www.people.memphis.edu/~kshawes/timeac02.html>

Time management activity: <http://cuip.uchicago.edu/www4teach/98/teams/Peerpals/timemanage.htm>

Time management at work: <http://stress.about.com/library/weekly/aa031202a.htm>

Managing workplace stress: <http://stress.about.com/cs/workplacestress/>

Stress resources: <http://www.apa.org/pi/work/>

### **Computer Applications:**

Business plans: [www.business-plan-help.com/sample-business-plan-template.html](http://www.business-plan-help.com/sample-business-plan-template.html)

Technical writing: [www.technical-writing-course.com/](http://www.technical-writing-course.com/)

Lesson plans for Computer Applications: [www.angelfire.com/ks/tonyaskinner/computer.html](http://www.angelfire.com/ks/tonyaskinner/computer.html)

MS Office tutorials: <http://surfacquarium.com/newsletter/office.htm>

Software tutorials: [www.baggetta.com/tutorials.htm](http://www.baggetta.com/tutorials.htm)

Office XP tutorials: [www.computer-training-software.com/xpup.htm](http://www.computer-training-software.com/xpup.htm)

Itcenter21: [www.aeseducation.com](http://www.aeseducation.com)

### **Computer Engineering:**

<http://www.guru.com/index.cfm?tc=20140&kw=computer%20engineering>

### **Desktop Publishing:**

<http://www.belleville.k12.wi.us/bhs/business/DesktopPub/Terminology.doc>

<http://www.microsoft.com/office/publisher/default.asp>

Desktop Publishing links: [http://dir.yahoo.com/Computers and Internet/desktop\\_publishing/](http://dir.yahoo.com/Computers_and_Internet/desktop_publishing/)

[http://www.newentrepreneur.com/Resources/Articles/DTP\\_12 most common/dtp\\_12 most common.html](http://www.newentrepreneur.com/Resources/Articles/DTP_12_most_common/dtp_12_most_common.html)

Create a brochure: <http://office.microsoft.com/assistance/2000/sbtools.aspx>

Where to order courseware: <http://www.customguide.com/word2000.htm>

Resources: <http://www.desktoppublishing.com/dtplinks.html>

<http://www.geocities.com/CollegePark/Quad/5687/cbp.html>

### **Digital Media Design:**

<http://www.dmdgo.com/>

<http://www.digitalmediadesigner.com/>

### **Digital Photography:**

<http://photos.msn.com/>

<http://www.dpreview.com/>

<http://www.shortcourses.com/>

<http://www.dcvews.com/>

<http://gcc.bradley.edu/exhibit/>

### **Digital Video:**

<http://www.adobe.com/motion/main.html>

<http://www.shortcourses.com/>

<http://desktopvideo.about.com/>

<http://desktopvideo.about.com/library/glossary/blglossary.htm?PM=ss15> desktopvideo

### **Entrepreneurship:**

FBLA resources: <http://www.angelfire.com/ks/tonyaskinner/fblares.html>

FBLA: <http://www.fbla-pbl.org>

<http://www.doingsuccess.com>

<http://www.entrepreneurship.com/>

National Dialogue on Entrepreneurship: <http://www.publicforuminstitute.org/nde/>

Consortium for Entrepreneurship Education: <http://www.entre-ed.org/>

Entrepreneurship development: <http://www.enterweb.org/entrship.htm>

### **Global Marketing:**

Four lessons for global business success: <http://www.globalbuzzmarketing.com/gb4lessons.pdf>

<http://glreach.com/>

<http://www.marketingprofs.com/arch/allarticles.asp?w=8>

### **Graphic Design:**

<http://www.allgraphics.com>

<http://www.graphic-design.com>

<http://www.howdesign.com/>

<http://www.grantasticdesign.com/glossary.html>

[http://dir.yahoo.com/arts/design\\_arts/graphic\\_design/web\\_page\\_design\\_and\\_layout/graphics](http://dir.yahoo.com/arts/design_arts/graphic_design/web_page_design_and_layout/graphics)

### **Home Technology Integrator:**

<http://www.comptia.org/certification/hti/>

<http://hti.ciscolearning.org/>

<http://www.householdautomation.com/>

<http://www.hometoys.com/htilinks.htm>

### **Information Processing:**

Technical manuals: <http://www.worldwidelinks.net/techwriting/>

Office tutorials: <http://www.computertim.com>

<http://www.fgce.edu/support/office2000/>

<http://www.exitnow.com/sbooks/lib7/sbframetocie.htm>

### **Innovative Applications Using Technology:**

<http://www.mse-ta.com>

Computer security: <http://www.intelbrief.com/compusec.htm>

General office: <http://www.dictionary.com>

Networks: <http://www.encarta.com>

<http://www.webopedia.com/TERM/T/topology.html>

Online computer dictionary: <http://whatis.techtarget.com/>

Hardware tutorials: <http://www.techtutorials.com/Hardware/>

Computer lessons: <http://www.2magma.com/~dsleeth/kids/lessons/lesson1.htm>

<http://home.att.net/charlie.net/cMctopology.htm>

Computer literacy: <http://www.jegworks.com/Lessons/lessonintro.htm>

### **International Business and Public Policy:**

<http://ecoethics.net>

<http://www.wtamu.edu/~sanwar.bus/otherlinks.htm#Marketing> \$ International Business Links

<http://www.publicintegrity.org/default.aspx>

<http://www.etown.edu/vl/intlbus.html>

<http://www.nsf.org/>

<http://www.business-ethics.org/>

### **Keyboarding:**

Keyboarding lesson plans and activities: <http://www.angelfire.com/ks/tonyaskinner/keybrd.html>

Student resources: <http://www.glencoe.com/ps/keyboarding/index.html>

<http://camtech2000.net/Pages/Keyboarding.html>

### **Management:**

<http://www.filemate.com/alphabeticindexingguide.htm>

<http://www.arma.org>

<http://www.filetutor.com/>

ARMA resources: <http://www.arma.org/learning/index.cfm>

Access resources: <http://fisher.osu.edu/~muhana1/837/MSAccess/tutorials.html>

American Management Association: <http://www.amanet.org/index.htm>

<http://management.about.com/>

Academy of Management: <http://www.aonline.org/>

<http://www.entrepreneur.com/YourBusiness/YBNode/0,4507,498,00.html?category=inktomi>

### **Multimedia Projects:**

<http://hotwired.lycos.com/webmonkey/multimedia/>

<http://www.computer.org/multimedia/>

<http://www.kde.org/areas/multimedia/>

<http://www.webreference.com/multimedia/>

### **Network Essentials:**

<http://www.networkessentials.com/>

<http://www.certificationtests.com/netess.htm>

<http://www.nwfusion.com/ns/catalog/specCourse.jsp?courseID=70&pmode=0>

### **Personal Finance:**

Check writing: <http://www.101financiallessons.com>

<http://www.aboutchecking.com/yourcheckingacct/ycaslctglossary.asp>

Spreadsheet lessons and activities: <http://emints.more.net/ethemes/resources/S00000602.html>

American Institute of CPAs (AICPA) resources: <http://www.aicpa.org/index.htm>

Mortgage/interest/savings calculators: <http://www.statewidefcu.org/calculat.htm>

Debt evaluation calculator: <http://moneycentral.msn.com/investor/calcs/ndebratio/main.asp>

Savings calculator: [http://moneycentral.msn.com/Investor/calcs/n\\_savapp/main.asp](http://moneycentral.msn.com/Investor/calcs/n_savapp/main.asp)

Time value evaluator: [http://moneycentral.msn.com/investor/calcs/n\\_time/main.asp](http://moneycentral.msn.com/investor/calcs/n_time/main.asp)

Personal Finance and Budgeting:

<http://moneycentral.msn.com/Content/Savinganddebt/Savemoney/Savemoney.asp>

### **Principles of Computer Aided Drafting (CAD):**

<http://www.knowledgestorm.com>

[http://www.learningchoices.com/resources/comp\\_aided\\_drafting.htm](http://www.learningchoices.com/resources/comp_aided_drafting.htm)

### **Programming:**

<http://www.webreference.com/programming>

Programming tips: <http://www.chami.com/tips/delphi/>

<http://www.linuxplanet.com/linuxplanet/>

### **Research Using Technology's Information Tools:**

Society For The History Of Technology (SHOT): <http://shot.press.jhu.edu/links.htm>

Designing more usable websites: <http://trace.wisc.edu/world/web/>

Research Methods: <http://southwest.msus.edu/rdic/researchtools.html>

### **Telecommunications:**

Voice mail:

[http://www.sun.com/aboutsun/comm\\_invest/ogp/lessons/massachusetts/lowell/corview\\_procedures.html](http://www.sun.com/aboutsun/comm_invest/ogp/lessons/massachusetts/lowell/corview_procedures.html)

Glossary of Internet terms: <http://www.matisse.net/files/glossary.html>

Internet research: <http://www.lib.monash.edu.au/vl/www/wwwcon.htm>

### **Web Page Design:**

Web page: <http://www.lissaexplains.com>

Multimedia: <http://www.auntlee.com/museum/lessonplans.htm>

[http://lessonplancentral.com/lessons/Computers and Internet/Multimedia/](http://lessonplancentral.com/lessons/Computers_and_Internet/Multimedia/)

Doug's color chart: <http://www.hypersolutions.org/pages/rgbhex.html>

Beginner's Guide to HTML: <http://acrhive.ncsa.uius.ude/General/Internet/WWW/HTMLPrimerAll.htm>

### **Word Processing:**

<http://office.microsoft.com/home/office.aspx?assetid=FX01085799>

A beginner's guide to Word Processing: <http://www.compumart.ab.ca/alumnis/beginnerword/>

Word Processing ideas: <http://www.emunix.emic.edu/~krause/Tips/word.html>

Activities: <http://www.edvista.com/claire/wp.html>

Online Word Processing tutorials: <http://quasar.ulberta.caledpy2021/tutorial/wptut/wpweb.htm>

## SOFTWARE

<http://www.aeseducation.com>

Applied Educational Systems, 208 Bucky Drive, Lititz, PA 17543, 1-800-220-2175, ext. 1013

<http://www.clearvue.com>

Clearview, Inc., 6465 N. Avondale Avenue, Chicago, IL 60631-1996, 1-800-CLEARVU

<http://www.dataworks.com.au/>

Dataworks Pty Ltd., Henderson Road, Rowville, VIC 3178, Australia, +61 3-97648344

<http://www.voyager.com/>

Voyager, 361 Broadway, Suite 610, New York, NY 10013, 1-800-232-22224

<http://www.macromedia.com/macromedia/>

Macromedia, Inc., 600 Townsend Street, San Francisco, CA 94103, 1-415-252-2000

<http://www.microsoft.com>

Microsoft Corporation, One Microsoft Way, Redmond, VA 98052-6399, 1-800-426-9400

<http://www.opac.com/>

OPAC Testing Software (Office Proficiency and Assessment Certification), 2868 Prospect Park Drive, Suite 110, Rancho Cordova, CA 95670, 1-800-999-0438

<http://www.quicken.com/quickenw/>

Intuit, 2632 Marine Way, Mountain View, CA 94043, 1-650-944-6000

<http://www.adobe.com>

Adobe Systems Inc., 345 Park Avenue, San Jose, CA 95110-2704, 1-800-833-6687

## RESOURCES

The *Resources* section is a listing of supplemental educational materials that may be helpful to teachers. This list is not comprehensive and is only offered as a starting point for investigation into possible resources. The Mississippi Department of Education does not endorse or recommend purchasing the following resources. The Mississippi Department of Education suggests that all resources be thoroughly reviewed to accommodate the needs of individual districts.

### BOOKS

<a href="http://www.scsite.com/dc2003/">http://www.scsite.com/dc2003/</a> Shelby Cashman Series	<u>Discovering Computers 2003.</u> Thompson Course Technology, 2003.
<a href="http://cisco.netacad.net/public/index.html">http://cisco.netacad.net/public/index.html</a> Cisco Systems, Inc.	<u>CCNA 3 and 4 Lab Companion, 3<sup>rd</sup> Edition.</u> Cisco Press, 2003.
<a href="http://www.buy.com/">http://www.buy.com/</a> Grossman, Rhoda and Sherry London	<u>Photoshop7 Magic with CD-Rom.</u> New Riders Publishing, 2002.
<a href="http://www.buy.com/">http://www.buy.com/</a> Kelby, Scott and Felix Nelson	<u>Photoshop7 Killer Tips.</u> New Riders Publishing, 2002.
<a href="http://www.buy.com/">http://www.buy.com/</a> Kelby, Scott	<u>Photoshop7 Down and Dirty Tricks.</u> New Rides Publishing, 2002.
<a href="http://www.amazon.com">http://www.amazon.com</a> Barker, Loretta	<u>Business Skills Exercises: Text Softcover.</u> Cincinnati, OH: South-Western Publishing Co., 2002.
<a href="http://www.amazon.com">http://www.amazon.com</a> Burrow, James L.	<u>Intro to Business, 5<sup>th</sup> Edition.</u> Cincinnati, OH: South-Western Publishing Co., 2003.
<a href="http://www.walmart.com">http://www.walmart.com</a> Fosegan, Joseph S.	<u>Alphabetic Indexing Rules: Application by Computer, 4<sup>th</sup> Edition.</u> Cincinnati, OH: South-Western Publishing Company, 2002.
<a href="http://shopping.yahoo.com">http://shopping.yahoo.com</a> Barrett, Charles, ed.	<u>Office Skills: Text, 3<sup>rd</sup> Edition.</u> Cincinnati, OH: South-Western Publishing Company, 2002.
<a href="http://www.walmart.com">http://www.walmart.com</a> Crews, Tera and Sandra Thompson	<u>Fundamentals of Insurance.</u> Cincinnati, OH: South-Western Publishing Company, 2002.
<a href="http://www.walmart.com">http://www.walmart.com</a> Buck, Carol J.	<u>Step-By-Step Medical Coding.</u> Elsevier Science Health Science Division, 2003.

<a href="http://www.amazon.com">http://www.amazon.com</a> Diamond, Marsha S.	<u>Coding Practice Supplement to Accompany Mastering Medical Coding: An Applied Approach, 2<sup>nd</sup> Edition.</u> W.B. Sanders, 2003.
<a href="http://www.elsevier.com">http://www.elsevier.com</a> Diehl, Mary	<u>Diehl and Fordney's Medical Transcribing, 5<sup>th</sup> Edition.</u> San Diego, CA: W.B. Sanders, 2003.
<a href="http://www.course.com">http://www.course.com</a> Palmer, Michael and Bruce Sinclair	<u>A Guide to Designing and Implementing Local and Wide Area Networks, 2<sup>nd</sup> Edition.</u> Thomas Learning, 2002.
<a href="http://www.amazon.com">http://www.amazon.com</a> Knapp, Donna	<u>A Guide to Help Desle Concepts, 2<sup>nd</sup> Edition.</u> Course Technology, 2003.
<a href="http://www.amazon.com">http://www.amazon.com</a> Meadors, Todd	<u>Linux Shell Script Programming.</u> International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Mackey, David	<u>Web Security for Network and System Administrators.</u> International Thomson Publishing, 2003.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Gosselin, Don	<u>Microsoft Visual C++. Net.</u> International Thomson Publishing, 2003.
<a href="http://www.coursedirect.com">http://www.coursedirect.com</a> Ciampa, Mark D.	<u>Networking Guide to Wireless Communications.</u> International Thomson Publishing, 2003.
<a href="http://www.coursedirect.com">http://www.coursedirect.com</a> Reding, Elizabeth Eisner	<u>QuarkXPress 5.</u> International Thomson Publishing, 2003.
<a href="http://www.coursedirect.com">http://www.coursedirect.com</a> Lindsay, James,ed.	<u>Macromedia Flash MX.</u> International Thomson Publishing, 2003.
<a href="http://www.coursedirect.com">http://www.coursedirect.com</a> Lindsay, James, ed.	<u>Visual Basic. NET Introductory Concepts and Techniques.</u> International Thomson Publishing, 2002.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Cashman, Thomas J., ed.	<u>Java Programming Introductory Concepts and Techniques.</u> International Thomson Publishing, 2003.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Cashman, Thomas J., ed.	<u>System Analysis and Design.</u> International Thomson Publishing, 2002.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Ekedahl, Michael and William Newman	<u>Visual Basic. NET: An Object-Oriented Approach.</u> International Thomson Publishing, 2002.

<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Cashman, Thomas J., ed.	<u>Teachers Discovering Computers: Integrating Technology in the Classroom, 3<sup>rd</sup> Edition.</u> International Thomson Publishing, 2004.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Cashman, Thomas J., ed.	<u>Discovering Computers 2004: A Gateway to Information.</u> International Thomson Publishing, 2004.
<a href="http://www.thomsonlearning.com">http://www.thomsonlearning.com</a> Stair, Ralph and George Reynolds	<u>Fundamentals of Information Systems.</u> International Thomson Publishing, 2002.
<a href="http://www.amazon.com">http://www.amazon.com</a> Carey, Patrick	<u>New Perspectives on XML.</u> International Thomson Publishing, 2002.
<a href="http://www.course.com">http://www.course.com</a> Oja, Dan and June Jamrich Parsons	<u>New Perspectives on Computer Concepts.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Carey, Patrick and Mary Kemper	<u>New Perspectives on Creating Web Pages with HTML and Dynamic HTML.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Evans, Jessica and Gary P. Schneider	<u>New Perspectives on the Internet.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Burns, Barbara and Joan Carey	<u>New Perspectives on Internet Explorer 6.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Fuffolo, Lisa and Harry L. Phillips	<u>New Perspectives on Desktop Operating Systems.</u> International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Geller, Mitch and Kelly Hart	<u>New Perspectives on Macromedia Dreamweaver MX, Comprehensive.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Sklar, Joel	<u>Principles of Web Design, 2<sup>nd</sup> Edition.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Gosselin, Don	<u>Java Script, 3<sup>rd</sup> Edition.</u> International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Miletskey, Jason	<u>Planning, Developing, and Marketing Successful Websites.</u> International Thomson Publishing, 2002.
<a href="http://www.course.com">http://www.course.com</a> Bishop, Sherry	<u>Macromedia Dreamweaver MX 200 – Illustrated Introductory.</u> International Thomson Publishing, 2004.

<a href="http://www.course.com">http://www.course.com</a> Bai, Xue	<u>Java Server Pages</u> . International Thomson Publishing, 2002.
<a href="http://www.course.com">http://www.course.com</a> Waxer, Barbara M.	<u>Macromedia Fireworks MX 2004 – Design Professional</u> . International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Palinski, John Adolph	<u>Oracle 9i Developer: Developing Web Applications with Forms Builder</u> . International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Malik, D.S. and P.S. Nair	<u>Data Structures Using Java</u> . International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Malik, D.S. and P.S. Nair	<u>Java Programming: From Problem Analysis to Program Design</u> . International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Johnson, Gred, ed.	<u>Guide to Networking Essentials, 4<sup>th</sup> Edition</u> . International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Malik, D.S.	<u>C++ Programming: Program Design Including Data Structure</u> . International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Blanc, Ins and Jaime Blanc	<u>Performing with Computer Applications, 2<sup>nd</sup> Edition</u> . International Thomson Publishing, 2003.
<a href="http://www.course.com">http://www.course.com</a> Bunin, Rachel, ed.	<u>Computer Concepts – Illustrated Introductory, 5<sup>th</sup> Edition</u> . International Thomson Publishing, 2004.
<a href="http://www.course.com">http://www.course.com</a> Reynolds, George W. and Ralph M. Stair	<u>Fundamentals of Information Systems</u> . International Thomson Publishing, 2003.
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Mastering Data Warehouse Design: Relational and Dimensional Techniques. John Wiley and Sons, Inc., 2003.

## COMPANIES AND ORGANIZATIONS

### Business and Technology Textbook Publishing Company Web Sites:

<http://www.wbsaunders.com>

<http://www.elsevier.com>

<http://www.glencoe.com>

<http://www.bedfordstmartins.com>

<http://www.thomsonlearning.com>

## CONTINUING EDUCATION FOR BUSINESS AND TECHNOLOGY EDUCATORS

Business Professionals of America: <http://www.bpa.org/>

Consortium for School Networking (COSN): <http://www.cosn.org/>

DECA, an Association of Marketing Students: <http://www.deca.org/>

International Society for Technology in Education (ISTE): <http://www.iste.org>

Mississippi Department of Education (MDE): <http://www.mde.k12.ms.us>

Mississippi Educational Computing Association (MECA): <http://www.ms-meca.org/>

National Business Education Association (NBEA): <http://www.nbea.org/nbea.html>

National Education Computing Conference (NECC): <http://center.uoregon.edu/ISTE/NECC>

### Mississippi Public and Private Universities and Community Colleges:

Alcorn State University: <http://www.alcorn.edu> and <http://bschool.edu/>

Belhaven College: <http://www.belhaven.edu/Academics/Divisions/Business/business.htm>

Copiah-Lincoln Community College: <http://www.colin.cc.ms.us> and <http://www.colin.edu/business/>

Delta State University:

<http://www.deltastate.edu/vpbusaffairs/SplashPages/CollegeofBusiness.asp>

East Central Community College: <http://www.eccc.cc.ms.us>

East Mississippi Community College: <http://www.emcc.cc.ms.us/tech/index.html>

Hinds Community College: <http://lrc.hindscc.edu/>

Holmes Community College: <http://www.holmes.cc.ms.us>

Itawamba Community College: <http://www.icc.cc.ms.us/>

Jackson State University: <http://jsums.edu/business/>

Jones County Community College: <http://www.jcjc.cc.ms.us/depts/business/index.htm>

Meridian Community College: <http://mccbanweb.mcc.cc.ms.us/catalog2/catalog/catprogpage.htm>

Millsaps College: <http://www.millsaps.edu/esom/> and  
<http://www.millsaps.edu/adltn/enrichment/community-enrichment.shtml>

Mississippi College: <http://www.mc.edu/academics/undergraduate.pp#business> and  
<http://www.mc.edu/continuinged/profdev.php>

Mississippi Delta Community College: <http://www.mdcc.cc.ms.us/academic.htm>

Mississippi Gulf Coast Community College: <http://www.mgccc.edu/>

Mississippi State University: <http://www.msstate.edu> and <http://www.cbi.msstate.edu/>

Mississippi University for Women: <http://www.muw.edu/cont ed/index.html> and  
<http://www.muw.edu/prospective/pros academic.html>

Mississippi Valley State University: <http://www.mvsu.edu/Academics/index.html#ndgd>

Northwest Mississippi Community College: <http://northwestms.edu/>

Pearl River Community College: <http://www.prcc.edu/>

Southwest Mississippi Community College: <http://www.smcc.cc.ms.us>

Tougaloo College: <http://www.tougaloo.edu/divisions.html>

University of Mississippi: <http://ww.bus.olemiss.edu>

University of Southern Mississippi: <http://www.usm.edu/colleges/cbed/>

William Carey College: <http://www.wmcarey.edu>

Wood College: <http://www.wood.cc.ms.us>

## **SAMPLE FOR MEASURING PROFICIENCY IN KEYBOARDING**

The student must successfully complete all three of the following tasks:

1. A timed writing with 30 NWAM.

Restrictions:

- a. The student must type the timed writing using the touch-technique – He/she may not look at his/her hands. NOTE: A keyboard cover may be used.
- b. The student cannot have more than nine (9) errors.
- c. The student is given two (2) attempts to complete this portion of the exam.

**If the student successfully completes step 1, he/she may proceed to step 2:**

2. Produce a block-style business letter.

**If the student successfully completes step 2, he/she may proceed to step 3:**

3. Complete a written test on common keyboarding terminology and concepts (e.g., spacing, proofreader's marks, etc.).

## BUSINESS AND TECHNOLOGY GLOSSARY (TERMINOLOGY)

**3-D animation** – Three-Dimensional Animation.

**Accounting concepts** – assumptions underlying the preparation of financial statements.

**Accounting diversity** – recognition that many diverse national and international accounting standards exist in the world.

**Accounting period** – time period for which accounts are prepared (usually one year).

**Accounts receivable** – a current asset representing money due for services performed or merchandise sold on credit.

**Accounts receivable turnover** – the ratio of net credit sales to average account receivable; a measure of how quickly customers pay their bills.

**Accrual basis of accounting** – is wherein revenue and expenses are recorded in the period in which they are earned or incurred regardless of whether cash is received or disbursed in that period. Plant asset is a non-current physical asset applicable to manufacturing activities.

**Accrued interest** – interest earned but not paid since the last due date.

**Actual cost** – the amount paid for an asset; not its retail value, market value, or insurance value.

**Ad valorem** – according to value.

**Advance payment** – trading method in which the buyer pays for the goods before they are sent out. This method is used when the buyer is of unknown credit worthiness.

**Advertising** – all forms of paid promotion that deliver a message to many people at the same time.

**Agency** – relationship between a principal and an agent wherein the agent is authorized to represent the principal in certain transactions.

**Agent** – someone who represents another.

**Algorithm** – a set of sequential instructions that are followed to solve a problem.

**American Standard Code for Information Interchange (ASCII)** – a code computers use to assign a number to each character. The numbers are used to represent the character internally to the computer.

**American terms** – a foreign exchange quotation that states the U. S. dollar price per foreign currency unit.

**Analog signaling** – values measured in continuous signals.

**Analyst** – employee of a brokerage or fund management house who studies companies and makes buy and sell recommendations on their stocks.

**Animation** – a simulation of movement created by displaying a series of pictures, or frames. A cartoon on television is one example of animation. Video takes continuous motion and breaks it up into discrete frames. Animation starts with independent pictures and puts them together to form the illusion of continuous motion.

**Annual Percentage Rate (APR)** – the interest rate on loans calculated uniformly as provided in the Truth in Lending Act so that borrowers can compare interest rates charged by different lenders.

**Annuity** – in finance, is a series of fixed payments, usually fixed over a number of years.

**APEC** – Asian-Pacific Economic Cooperation.

**Appellate process** – timely review by a body of judges; review of the merits of the trial courts' final judgment; statements of reason by the appellate court; due consideration of the issues based on the complexity of the case.

**Arbitration** – trial through the courts, with a time frame less than that of a litigation and trial.

**Arbitrator** – an unbiased third party who is called in to resolve problems between labor and management.

**Area** – in math, an amount of surface. Example: for a rectangle it is length times width.

**Assessed value** – the estimated value of property used for tax purposes.

**Asset/equity ratio** – the ratio of total assets to stockholder equity.

**Assigned risk** – insurance is provided at high premiums for those individuals who have a bad driving record and who cannot get regular insurance.

**Associate** – in business, is a person brought together with a company or another person into a relationship.

**ATM** – (Automated Teller Machine) that accepts deposits and allows withdrawals from accounts at depository institutions.

**Audit** – inspection of the accounting records and procedures of a business, government unit, or other reporting entity by a trained accountant for the purpose of verifying the accuracy and completeness of the records.

**Availability of funds** – the delay which a depository institution may impose on your access to funds after you have deposited checks drawn against another depository institution.

**Backup** – additional resources or duplicate copies of data on different storage media for emergency purposes.

**Balance of trade** – the difference between a country's total imports and exports.

**Balance sheet** – itemized statement that lists the total assets and total liabilities of a given business to portray its net worth at any given moment in time.

**Banker's draft** – a payment instrument used to make international payments.

**Bankruptcy** – a provision of Federal Law whereby a debtor surrenders his/her assets to the bankruptcy court and is relieved of the future obligation to repay his/her unsecured debts.

**Barter** – trade in which merchandise is exchanged directly for others without use of money.

**Batching** – in accounting, is the gathering and organizing of incoming invoices prior to processing.

**Benchmark** – a study to compare actual performance to a standard for the basis of comparison as being above, below, or comparable to.

**Beneficiary** – the person to whom life insurance benefits are paid when the insured dies.

**Binary** – pertaining to a number system that has just two unique digits. For most purposes, we use the decimal number system, which has ten unique digits, 0 through 9. Computers are based on the binary numbering system, which consists of just two unique numbers, 0 and 1. All operations that are possible in the decimal system (addition, subtraction, multiplication, division) are equally possible in the binary system.

**Bit** – a single binary digit.

**Bitmap graphic** – an image that is composed of a series of dots or pixels. When these images are resized, the image quality often deteriorates greatly.

**Bonds** – debt obligations of corporations or governments.

**Bookkeeping** – the practice of labor involved in the systematic recording of the transactions affecting a business.

**Bookmark** – to mark a document or a specific place in a document for later retrieval.

**Break-even point** – the point at which income from sales equals total cost to produce the items sold.

**BRI** – Basic Rate Interface; two 64 K "bearer" channels and a single "delta" channel ("2B + D").

**Browser** – a program that lets you look through a collection of data.

**Budget** – a plan for using or spending income; an estimate of expenses.

**Business** – an organization that produces or distributes a good or service for profit.

**Business ethic** – a collection of principles and rules of conduct based on what is right and wrong for an organization.

**Byte** – common unit of complete storage; comprised of eight bits; represents a single character (i.e., letter A, symbol, or decimal point).

**Cable modem** – a device that enables you to hook up your PC to a local cable TV line and receive data.

**Caching** – technique that improves performance of disk drives.

**Capital goods** – buildings, tools, machines, and other equipment that are used to produce other goods but do not directly satisfy human wants.

**Capitalization** – a method used to estimate value of a property based on the rate of return on investment.

**CDP (Cisco Discovery Protocol)** – media and protocol independent protocol that runs on all Cisco-manufactured equipment, including routers, bridges, access and communication servers, and switchers. Using CDP, you can view information about all the Cisco devices directly attached to the switch.

**CD-ROM** – Compact Disk Read-Only Memory; a compact optical disk capable of storing large amounts of data up to 1GG.

**CEO** – Chief Executive Officer; the CEO is the principle individual responsible for the activities of a company.

**CFO** – Chief Financial Officer; officer in a corporation responsible for handling funds, signing checks, keeping financial records, and financial planning for the company.

**Checking account** – an account at a depository institution which can be used as a convenient payments mechanism.

**CISCO Systems** – one of the leading manufacturers of [network](#) equipment. Cisco's primary business is in [internetworking](#) products, such as [routers, bridges,](#) and [switches.](#)

**Civil law** – provides an injured party the opportunity to bring suit seeking private remedies to compensate for his/her injury.

**CMOS** – Complementary Metal Oxide Semiconductor a semiconductor fabrication technology using a combination of n- and p-doped semiconductor material to achieve low power dissipation. Any path through a gate through which current can flow includes both n and p type transistors. Only one type is turned on in any stable state so there is no static power dissipation and current only flows when a gate switches in order to charge the parasitic capacitance.

**Coaxial cable** – the type of cable used for cable television.

**Coding** – in accounting, is the assignation of the proper account codes to invoices.

**Collate** – a printer feature that prints a complete copy of a document before printing additional copies.

**Collateral** – something of value, such as a car, a home, or savings, pledges as security on a loan.

**Collectivism** – the belief that the group is more important than the individual; a term used in differing strategies of decision-making.

**Command Economy** – a country where the government regulates the amount, distribution, and price of everything produced.

**Common carriers** – transporter who holds himself out to the general public for the transportation of goods over a definite route and according to a regular schedule. By the common law, a common carrier is generally liable for all losses which may occur to property entrusted to his charge of business, unless he can prove the loss happened in consequence of the act of God, or of the enemies of the United States, or by the act of the owner of the property.

**Common Market** – European counties that eliminate duties and other trade barriers allowing companies to invest freely in each member's country, and allowing workers to move freely across borders.

**Company** – organized group of people to perform an activity, business, or industrial enterprise.

**Component** – A constituent element, as of a system; part of a mechanical or electrical complex.

**Compression** – The process by which data is compressed into a form that minimizes the space required to store or transmit it.

**CompTIA** – Computing Technology Industry Association.

**Computer** – a general purpose machine that processes data according to a set of instructions that are stored internally either temporarily or permanently.

**Computer subsystems** – a system that is part of some larger system that computes, especially a programmable electronic machine that performs high-speed mathematical or logical operations or that assembles, stores, correlates, or otherwise processes information.

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**Conciliation** – overcoming the distrust or animosity of; appeasing.

**Connection-oriented network service** – a network service that establishes logical connections between end users before transferring information.

**Consolidation** – a form of corporate reorganization in which two firms pool their assets and liabilities to form a new company.

**Consumer Protection Agency** – an agency that sets safety standards on many products.

**Contra account** – is the reduction to the gross cost of an asset to arrive at the net cost; e.g., accumulated depreciation is a contra account to the original cost of a fixed asset to arrive at the book value.

**Contract** – a legally binding agreement between two or more parties to do or not to do something.

**Cooperative** – a business owned and operated by its user-members for the purpose of supplying themselves with goods and services.

**Copyright** – laws protecting an author's content from being used without permission.

**Corporate culture** – the set of values, beliefs, and relationships between individuals and functions that guide decisions of a company to achieve its goals.

**Corporation** – form of business organization that is created as a distinct "legal person" composed of one or more actual individuals or legal entities.

**Co-signing** – the act of promising to repay another person's debt if that person will not or cannot repay.

**Cost accounting** – is a managerial accounting activity designed to help managers identify, measure, and control operating costs.

**Country risk** – the political and financial risks of conducting business in a particular foreign country.

**CPI** – Consumer Price Index.

**CPU (Central Processing Unit)** – the computing part of the computer; also called the "processor."

**Crash** – when a computer stops running or "locks up" due to an error.

**Credit** – granting of money or something else of value in exchange for a promise to repay at some time in the future.

**Credit Union** – a depository financial institution which is owned by the members. Credit Unions offer a wide array of loans and deposit products and other financial services.

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**Crime** – an intentional violation of another's rights, subject to criminal action and subsequent penalty.

**Criminal law** – protects society’s interests by defining offenses against the state as the representative or embodiment of society and prescribing appropriate punishment for their commission.

**Culture** – the set of customs, beliefs, and social attitudes that characterize a particular group of people.

**Current account** – a measure of a country’s international trade in goods and services.

**Customary system** – the system of measures; pound, gallon, ton, foot, etc., used in the U.S.

**Customs** – the authorities designated to collect duties levied by a country on imports and exports.

**Data** – a computer representation of something that exist in the real world.

**Data encapsulation** – technique used by protocols in which a layer adds header information to the Protocol Data Unit (PDU) from the preceding layer.

**Data link** – the second layer of the OSI model.

**DB** – database; collection of information organized in such a way that a computer program can quickly select desired pieces of data; electronic filing system.

**DDR** – Dial-on-Demand Routing; routing technique developed by Cisco that allows a user to utilize existing telephone lines, or public circuit-switched networks, to form a WAN instead of lines that are dedicated specifically to the WAN.

**Debit card** – a card used like a credit card to make a purchase, except that the purchase price is immediately deducted from the user’s checking account balance, like an electronic check.

**Debug** – to find and remove errors (bugs) from a program or design.

**Deductible** – in insurance, a specified amount of damages on a claim which must be exceeded before the insurance company pays. The insurance company pays the amount above the deductible.

**Delegate** – to let other people share workloads and responsibilities.

**Demand** – the number of goods or services that will be bought.

**Demographics** – data that describe a group of people in terms of their age, marital status, family size, ethnicity, gender, profession, education, and income. Other characteristics may be added to the list given as long as it is descriptive of the group as a whole.

**Desktop** – in graphical user interface, a metaphor used to portray file systems.

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**Digital camera** – a camera that stores images digitally rather than recording them on film.

**Digital Signaling** – signals measured at discrete intervals.

**Discretionary income** – money that is left over when the bills have been paid.

**Discrimination in Employment Act** – includes rules on how employers must treat all employees fairly, according to factors unrelated to their ability or potential, such as age, disability, sex, or national origin.

**Disk** – a round plate on which data can be encoded.

**Distribution** – a foreign agent who sells for a supplier directly and maintains an inventory of the supplier's product.

**Dividends** – profit distributions by corporations to shareholders who own stock in the corporations.

**DMA** – Direct Memory Access; a facility of some architectures that allows a peripheral to read and write memory without intervention by the CPU. DMA is a limited form of bus mastering.

**DOC** – Department of Commerce.

**Driver** – a hardware device, typically a transistor that provides signals or electrical current to activate a transmission line or display screen panel. It is a program routine that links the operating system to a peripheral device. It contains the precise machine language necessary to perform the functions requested by the application.

**DSL (Digital Subscriber Line)** – a technology that dramatically increases the digital capacity of ordinary telephone lines into the home, office, or school.

**Dumping** – the practice of selling exported products at a lower price than the home country's producers can sell the same product for.

**Duplex** – printing on both front and back sides of paper.

**Duty** – a tax imposed on imports by the customs authority of a country.

**DVD** – Digital Versatile Disk; a type of optical disk technology similar to the CD-ROM. DVDs are commonly used as a medium for digital representation of movies and other multimedia presentations that combine sound with graphics.

**E-commerce** – selling products or services over the internet; also called electronic commerce.

**Economic system** – the method a country uses to answer the basic economic questions: What goods and services are to be produced? How should the goods and services be produced? For whom should the goods and services be produced?

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**E-mail** – electronic mail; transmission of messages over communications networks.

**Employment rate** – the ratio, in percent, of the number of employed persons to total labor force.

**Encapsulation** – enclosing the details of a function within the function itself so that those details do

not have to be known in order to use the function.

**Encrypted data** – referred to as cipher text.

**Encryption** – the translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to *decrypt* it. There are two main types of encryption: asymmetric encryption (also called public-key encryption) and symmetric encryption.

**Entrepreneur** – one who organizes, manages, and assumes the risks of a business or enterprise.

**Entrepreneurship** – the creative act of putting together production factors to produce goods and services.

**Equity** – the difference between what a person owns as of a given date and what that person owes.

**Ethernet** – most widely-installed local area network technology.

**Ethnocentrism** – the belief that one's culture is better than other cultures.

**Euro** – the single currency of the European Economic and Monetary Union (EMU) introduced in January 1999.

**Expatriates** – people who live and work outside their native country.

**Expense** – money paid out; the cost of goods or services used up; a decrease in capital caused by the operation of a business.

**Export** – an entry mode into international markets that relies on domestic production and shipments to foreign markets through sales agents or distributions, foreign sales branches, or foreign sales subsidiaries.

**External market** – a market for financial securities that are placed outside the borders of the country issuing that currency.

**F.O.B.** – free on board; a term used in the price quotations to tell who will pay transportation costs of shipping goods to a location.

**Face value** – the value of a bond that appears on its face.

**Fair Labor Standards Act** – FLSA; governs the amount of wages an employee is entitled to, and the amount of hours the employee can work. The FLSA includes rules in minimum wage, overtime, child

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labor, and the amount of hours that can be worked. In addition to the FLSA, employers are also governed by specific state wage and hour laws, which generally give more rights than federal laws.

**Fair Use** – a set of rules allowing limited use of Copyrighted material.

**FBLA** – Future Business Leaders of America.

**FDA** – Food and Drug Administration; a U. S. agency which has the power to set standards for food, drugs, cosmetics, and devices. Before new drugs can be approved by the FDA and be released to the market, they must undergo extensive laboratory testing within the pharmaceutical company. The company must then file a formal and thorough application for approval with the FDA.

**Fiber optics** – a technology that uses glass (or plastic) threads (fibers) to transmit data. A fiber optic cable consists of a bundle of glass threads, each of which is capable of transmitting messages modulated onto light waves.

**FIFO** – First-In, Last-Out; an inventory cost flow whereby the first goods purchased are assumed to be the last goods sold so that the ending inventory consists of the last goods purchased.

**Firewall** – a system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially intranets.

**Fiscal year** – a period of time of twelve months starting from any date; example, a business may have a Fiscal year of operations from July 1 to June 30 of the following year.

**Fixtures** – part of real estate; an article that is permanently attached to the soil or to something attached to the soil. They are automatically included in a sale, unless specifically mentioned in the contract as going to the seller.

**Floppy disk** – a soft magnetic disk.

**Flow control** – management of data flow between computers or devices or between nodes in a network so that the data can be handled at an efficient pace.

**Flowchart** – a design tool used to represent the logic in a solution algorithm graph.

**Folder** – an object that can hold other objects, such as other folders and files.

**Foreign exchange** – currency of another country, or a financial instrument that facilitates payment from one currency to another.

**Frame relay** – telecommunication service designed for cost-efficient data transmission for intermittent traffic between local area networks (LANs) and between end-points in a wide-area network (WAN).

**Frames** – in video and animation, a single image in a sequence of images.

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**Franchise** – a legal agreement between a company and a distributor to sell a product or service under special conditions.

**Free Enterprise** – the trade carried on in a free-market economy, where resources all allocated on the basis of supply and demand.

**FTP** – File Transfer Protocol; a powerful tool that allows the movement of files over the Internet.

**GATT** – General Agreement on Tariffs and Trade; a worldwide trade agreement designed to reduce tariffs, protect intellectual property, and set up a resolution system. The agreement is overseen by the World Trade Organization (WTO).

**Geocentric approach** – a worldwide strategy of business integration that allows the development of international managers and reduces national biases.

**GIF** – Graphic Interchange Format; a bit-mat graphics file format used by the World Wide Web, CompuServe and many BBSs; uses compression techniques to reduce the file size. It is best used for images with only a few distinct colors and various resolutions.

**Graphics** – pertains to any computer device or program that makes a computer capable of displaying and manipulating pictures.

**Grayscale** – a continuous tone image comprising black, white, and gray data only.

**Gross domestic product** – measures the output of a country in terms of all goods and services produced and sold.

**Gutter** – the amount of space between columns in a multi-column document.

**Hard disk drive** – the mechanism that reads and writes data on a hard disk.

**Hardware** – refers to objects that you can actually touch, like disks, disk drivers, display screens, keyboards, printers, boards, and chips.

**HDLC** – High-level Data Link Control; a transmission protocol used at the data link layer (layer 2) of the OSI seven layer model for data communications.

**Hexadecimal** - refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits.

**HTML** – Hypertext Markup Language; a markup language used to structure text and multimedia documents and to set up hypertext links between documents, used extensively on the World Wide Web.

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**HTTP** – Hyper Text Transfer Protocol; a set of instructions telling computers how to send and receive hypertext data and documents.

**HVAC** – Heating Ventilating Air-Conditioning.

**Hyperlinks** – an element in an electronic document that links to another place in the same document or to an entirely different document.

**Hypertext** – highlighted, underlined, or contrast-colored words or images that, when clicked with the

mouse, take you to another location.

**I/O** – Input/Output; systems that test physical devices require inputs to measure sensed physical phenomena for a number of purposes; such systems require outputs to control the unit under test, control the environment, control remote sub-systems, and provide other information.

**ICEA** – Insulated Cable Engineering Association; ICEA is a professional organization dedicated to developing cable standards for the electric power, control, and telecommunications industries.

**ICMP** – Internet Control Message Protocol; supports packets containing error, control, and informational messages.

**IDE** – Integrated Drive Electronics; interface for mass storage devices in which the controller is integrated into the disk or CD-ROM drive.

**IEEE** – Institute of Electrical and Electronics Engineers; pronounced *I-triple-E*. Founded in 1884 as the AIEE, the IEEE was formed in 1963 when AIEE merged with IRE. IEEE is an organization composed of engineers, scientists, and students. The IEEE is best known for developing standards for the computer and electronics industry. In particular, the IEEE 802 standards for local-area networks are widely followed.

**IGRP** – Interior Gateway Routing Protocol; protocol that allows a number of gateways to coordinate their routing.

**IM** – Instant Messaging; a type of communications service that enables a person to create a kind of private chat room conversation with another individual in order to communicate in real time over the Internet. Typically, the instant messaging system alerts you whenever somebody on your private line is online. You can then initiate a chat session with that particular individual.

**Import** – to bring data into a document from another document, often generated by a different application.

**Income statement** – financial report that summarizes a firm's performance over a specified time.

**Inflation** – when there is too much money in the economy and this money is used by people to attempt to buy a limited supply of goods and services, resulting in higher prices.

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**Infrastructure** – networking framework in which devices communicate with each other by first going through an Access Point (AP). In infrastructure mode, wireless devices can communicate with each other or can communicate with a wired network.

**Insolvent** – a condition in which liabilities exceed assets, so debts cannot be paid.

**Insurance** – a method for spreading individual risk among a large group of people to make losses more affordable for all.

**Intellectual property** – property that can be protected under federal law, including copyrightable works, ideas, discoveries, and inventions. Such property would include novels, sound recordings, a

new type of mousetrap, or a cure for a disease.

**Interest** – the price of credit; compensation to lender paid by borrowers; the fee charged for using another's money or credit. It is expressed as a percentage rate over a period of time.

**International business** – business activities that occur between two or more countries.

**International market** – the mechanism for trading securities that are offered simultaneously to investors in a number of countries and are issued outside the jurisdiction of any single country.

**International Monetary Fund (IMF)** – an international banking organization that helps promote economic cooperation by maintaining an orderly system of world trade and exchange rates.

**International monetary system** – the global network of governmental and commercial institutions within which currency exchange rates are determined.

**Internet (Net)** – a worldwide network of lined computers that allows data and information to be transferred among computers.

**Intranet** – a private company network that allows employees to share resources no matter where they are located.

**IPX** – Internetwork Packet Exchange; a networking protocol used by the Novell NetWare operating systems. It is a datagram protocol used for connectionless communications.

**IRQ** – Interrupt Request; the name of an input found on many processors which causes the processor to suspend normal instruction execution temporarily and to start executing an interrupt handler routine.

**IRS** – Internal Revenue Service; the branch of the federal government charged with the responsibility for collecting income tax.

**ISDN** – Integrated Services Digital Network; a set of communications standards allowing a single wire or optical fiber to carry voice, digital network services, and video. It is intended to replace the plain old telephone system.

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**ISO (International Standard Organization)/OSI (Open Systems Interconnection) reference model** – a standard reference model for communication between two end users in a network. It is used in developing products and understanding networks.

**ISP** – Internet Service Provider; an organization that provides a dial-up connection to the Internet.

**Iteration** – in programming a single loop or pass through a group of statements.

**JPEG** – Joint Photographic Experts Group; graphical image that uses lossy compression techniques (where some of the data is lost) to reduce the file size.

**Kerning** – adjusting the spacing between two letters in text.

**Keyframe** – defines an important event within an animation – the introduction of a new graphic, a blending effect, a new title, or a change in motion, direction, or speed.

**Kilobyte** – One thousand twenty-four bytes of data.

**Labor** – people's work or effort in the productive process.

**LAN** – Local Area Network; group of computers and associated devices that share a common communications line or wireless link and typically share the resources of a single processor or server within a small geographic area (for example, within an office building). A LAN may serve as few as two or three users (for example, in a home network) or as many as thousands of users (for example, in a FDDI network).

**Landlord** – an owner of real property who leases (rents) that property to a tenant under a lease agreement. He is bound to perform certain duties and is entitled to certain rights.

**LAPB** – Link Access Protocol Balanced; a layer 2 data link layer protocol.

**Law of demand** – the economic principle that people buy more as the price of a good or service goes down, and less as the price of a good or service goes up.

**Layaway** – A payment plan in which a buyer reserves an article of merchandise by placing a deposit with the retailer until the balance is paid in full.

**LDC** – less-developed country; a country whose annual per capita income is between \$300 and \$700. LDCs are formally recognized as such by the United Nations Conference on Trade and Development, which promotes the economic development of LDCs.

**Leading** – spacing between lines of text. Leading is measured in points.

**LIFO** – Last-In, First-Out; an inventory cost flow whereby the last goods purchased are assumed to be the first goods sold so that the ending inventory consists of the first goods purchased.

**Limited Liability Company (LLC) (formerly S-corporation)** - a special type of corporation that is taxed as if it were a sole proprietorship or partnership.

**Limited partnership** – restricts the liability of a partner to the amount of the partner’s investment.

**Link** – a built-in connection to another related web page or part of a web page.

**Linux** – pronounced *lee-nucks* or *lih-nucks*. A freely distributable open source operating system that runs on a number of hardware platforms. The Linux kernel as developed mainly by Linus Torvalds. Because it’s free, and because it runs on many platforms, including PCs and Macintoshes, Linux has become an extremely popular alternative to proprietary operating systems.

**Litigation** – process of carrying out a lawsuit.

**LMI** – Layer Management Interface; maps requests and indications between the system management.

**MAC address** – Media Access Control; a hardware address that uniquely identifies each node of a network. Each different type of network media requires a different MAC layer.

**MAGNOLIA** – Mississippi Alliance for Gaining New Opportunities through Library Information Access; Mississippi’s statewide consortium, funded by the Mississippi Legislature; MAGNOLIA provides online databases for publicly-funded K-12 schools, public libraries, community college libraries, and university libraries in Mississippi.

**Mail merge** – the merging of database information (such as names and addresses) with a letter template in a word processor, in order to create “personalized” letters in a mass mailing.

**MAN** – Metropolitan Area Network; an intermediate form of network in terms of geography.

**Managerial Accounting** – is a system using financial accounting records as basic data to enable better business decisions in the areas of planning and control.

**Market** – refers to the types of buyers a business wishes to attract and where those buyers are located.

**Market value** – the highest price that a buyer would pay and the lowest price a seller would accept on a property.

**Marketing** – the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives.

**Mean** – an arithmetic sum of the numbers divided by the number of items; arithmetic average; a measure of central tendency.

**Median** – the middle number in a group of numbers arranged in order.

**Mediation** – an informal, yet structured negotiation with an independent, neutral third party, the mediator, facilitating the process.

**Megabyte** – One million twenty-four thousand bytes of data

**Memorandum** – a short written form of business communication that has a set form.

**Memory** – stores data and instructions that tell the computer what to do with the data; internal storage areas in the computer.

**Menu** – in an application program, a set of options presented to the user.

**Mode** – the number that occurs most frequently in a group of numbers.

**Modem (modulator – demodulator)** – a device that allows a computer or terminal to transmit data over a standard telephone line.

**Module** – a portion of a program that carries out a specific function and may be used alone or combined with other modules of the same program.

**MOLLI** – Mississippi Online Learning Institute; web-based educational service offered by the Mississippi Department of Education to provide Mississippi students and educators with access to a wider range of course work, with more flexibility in scheduling, and with the opportunity to develop their capacities as independent learners.

**Monopoly** – one company controls all market activity of specific goods or services.

**Morphing** – short for metamorphosing; morphing refers to an animation technique in which one image is gradually turned into another.

**Most Favored Nation (MFN)** – MFN is granted by a country to countries they consider good trading partners. These countries receive the lowest custom duty rates and favorable tariff rates.

**Motherboard** – the main board of a computer, usually containing the circuitry for the central processing unit, keyboard, and monitor, and often having slots for accepting additional circuitry.

**MP3** – a MPEG standard used especially for digitally transmitting music over the Internet; a file containing a song or other audio data that is encoded using this standard.

**MPEG** – Moving Picture Experts Group; family of standards used for coding audio-visual information (e.g., movies, videos, music) in a digital compressed format.

**Multimedia** – any presentation or software program that combines several media (e.g., graphics, text, sound, animation, and video).

**Multinational corporation** – a corporation with operations in more than one country.

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**Multiple dwellings** – a place to live for more than one individual.

**Multitasking** – the ability to simultaneously execute multiple programs; available in all operating systems today.

**Mutual fund** – an investment company that manages a pool of funds from many investors.

**NAFTA** – North American Free Trade Agreement; a regional trade pact among the

**NAT (Network Address Translation)** – translation of an Internet Protocol (IP) address used within one network to a different IP address known within another network.

**Navigation bar** – a row at the top, side, or bottom of a web page that lets you click on an object to move to another page or area.

**Net profit** – the difference between the selling price and all costs and expenses of the business.

**NetWare** – A local-area network (LAN) operating system developed by Novell Corporation. NetWare is a software product that runs on a variety of different types of LANs, from Ethernets to IBM token-ring networks. It provides users and programmers with a consistent interface that is independent of the actual hardware used to transmit messages.

**Network** – a group of two or more computer systems linked together.

**NRC/IRC** – National Research Council/Institute for Research in Construction.

**Online** – turned on and connected.

**Operating system** – the master control program that runs the computer.

**OPIC** – Overseas Private Investment Corporation; a U. S. agency that assists U. S. companies to protect their investments against risks in a particular country besides providing other services.

**OSI Network layer** – (Open Systems Interconnection) handles the routing of the data. It does routing and forwarding.

**Parliamentary Procedure** – a body of rules followed by an assembly.

**Partnership** – form of business organization in which two or more co-owners form a business.

**Patent** – a government grant that gives inventors exclusive rights of making, using, or selling the invention.

**Pension plan** – a fund that is established for the payment of retirement benefits.

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**Peripheral devices** - a computer device, such as a CD-ROM drive or printer that is not part of the essential computer, i.e., the memory and microprocessor. Peripheral devices can be external -- such

as a mouse, keyboard, printer, monitor, external Zip drive or scanner -- or internal, such as a CD-ROM drive, CD-R drive or internal modem. Internal peripheral devices are often referred to as *integrated peripherals*.

**Personal property** – includes all rights in property that are not real property rights (ex: contracts, accounts receivable, automobiles, and money).

**Plant asset** – is a non-current physical asset applicable to manufacturing activities.

**Plug-ins** – a hardware or software module that adds a specific feature or service to a larger system.

**PNG** – Portable Network Graphics; pronounced *ping*, a new bit-mapped graphics format similar to GIF.

**Portfolio** – combined holding of more than one stock, bond, real estate asset, or other asset by an investor.

**PPP** – Point-to-Point Protocol; a method for connecting a computer to the Internet. Working on the data link layer of the OSI model, PPP sends the computer's TCP/IP packets to a server that puts them onto the Internet.

**Presentation software** – presentation software (sometimes called "presentation graphics") is a category of application programs used to create sequences of words and pictures that tell a story or help support a speech or public presentation of information.

**Prime rate** – the rate of interest offered by lender to their best commercial (business) customers.

**Private law** – legal relationships among private individuals (ex: contracts, property, business associates, and torts).

**Privatization** – the process of changing an industry from publicly owned to privately owned.

**Procedural law** – fair, equal, and due legal process to protect individuals' freedoms, the rights and the legal interests of the citizens, to contribute to the strengthening of the rule of law and to the application of the Constitution and laws ruling the country. It is the body of law that governs how the judicial or administrative process is accessed and operates. (Ex: In a lawsuit implicating a neighbor for an action in tort based on negligence, the substantive law provides the rules that determine the elements of the negligence claim. The procedural law provides the rules that determine, among other things, which evidence may be admitted or excluded at trial.

**Product life cycle (PLC)** – the stages a good or service goes through from the time it is introduced until it is taken off the market. There are four stages: introduction, growth, maturity, and decline.

**Productivity** – the amount a worker produces per unit of time, such as an hour.

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**Profit** – the incentive, as well as the reward, for producing goods and services.

**Program** – step-by-step instructions telling the computer what needs to be done.

**Programming language** – a vocabulary and set of grammatical rules for instructing a computer to perform specific tasks. The term *programming language* usually refers to high-level languages, such as BASIC, C, C++, COBOL, FORTRAN, and Pascal. Each language has a unique set of keywords (words that it understands) and a special syntax for organizing program instructions.

**Promotional campaign** – encouragement of the progress, growth, or acceptance of something; furtherance. An operation or series of operations energetically pursued to accomplish a purpose: an advertising campaign for a new product; a candidate's political campaign.

**Proprietor** – the owner-manager of a business.

**Protocol** – special set of rules that end points in a telecommunication connection use when they communicate. Protocols exist at several levels in a telecommunication connection; an agreed-upon format for transmitting data between two devices.

**Pseudocode** – a way to express an algorithm in everyday English, rather than in a programming language.

**Public law** – organization of government and with its relation to the people (ex: Constitutional law, Criminal law, and Administrative law).

**Public relations** – a variety of programs designed to promote and/or protect a company's image or its individual products.

**QuickTime** – a video and animation system developed by Apple Computer. QuickTime is built into the Macintosh operating system and is used by most Mac applications that include video or animation. PCs can also run files in QuickTime format, but they require a special QuickTime driver. QuickTime supports most encoding formats, including Cinepak, JPEG, and MPEG.

**Quota** – the quantity of goods of a specific kind that a country permits to be imported without restriction or imposition of additional duties.

**RAM** – Random Access Memory; a group of memory chips, typically of the dynamic RAM (DRAM) type, which functions as the computer's primary workspace; the most common computer memory that can be used by programs to perform necessary tasks while the computer is on; an integrated circuit memory chip allows information to be stored or accessed in any order and all storage locations are equally accessible.

**Real property** – rights in land, buildings, and attached fixtures.

**Real time** – occurring immediately; the term is used to describe a number of different computer features. For example, real-time operating systems are systems that respond to input immediately. They are used for such tasks as navigation, in which the computer must react to a steady flow of new

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information without interruption. Most general-purpose operating systems are not real-time because they can take a few seconds, or even minutes, to react.

**Reciprocal** – the reciprocal of a given number is the number whose product with the given number is 1. For example, the reciprocal of  $3/2$  is  $2/3$ , of 5 is  $1/5$ , of  $1/5$  is 5.

**Reconciliation statement** – a form showing how the checkbook and bank statement balances are made to agree.

**RIP routing protocol** – Routing Information Protocol; an interior gateway protocol that specifies how routers exchange routing table information. With RIP, routers periodically exchange entire tables. Because this is inefficient, RIP is gradually being replaced by a newer protocol called Open Shortest Path First (OSPF).

**Router** – device or software in a computer that determines the next network point at which a packet should be forwarded toward its destination.

**SAP filters** – the IPX address of the source network or node.

**Savings deposits** – accounts that pay interest, typically at below-market interest rates that do not have a specific maturity and that usually can be withdrawn upon demand.

**SBA** – Small Business Administration; an independent agency of the U. S. federal government that aids, counsels, assists, and protects the interests of small business concerns to preserve free competitive enterprise and to maintain and strengthen the overall economy of the nation.

**Scanner** – a device that can read text or illustrations printed on paper and translate the information into a form the computer can use.

**Scientific notation** – a method of representing very large and very small numbers. Example; 5E6 is  $5 \times 10^9 = 50,000,000,000$  4-E3 is  $4 \times 1/10^{12} = 0.00000000000004$ .

**Screen shot** – a picture taken of an application screen, dialog box, etc. to help in the instruction of software use.

**SCSI** – Small Computer System Interface; used for connecting peripheral devices, such as external disk drives and scanners, as used on personal computers.

**Search engine** – a program that searches documents for specified keywords and returns a list of the documents where the keywords were found.

**Self-assessment** – evaluation of your strengths and weaknesses in an area.

**Semantics** – in computer science, the term is frequently used to differentiate the meaning of an instruction from its format.

**Site map** – a hierarchical visual model of the pages of a website. Site maps help users navigate through a website that has more than one page by showing the user a diagram of the entire site's contents. Not all websites have a site map.

**Socialism** – refers to economies with most basic industries owned and operated by government. However, individuals are usually free to engage in other business opportunities.

**Software** – exists as ideas, concepts, symbols, data, or computer instruction.

**Spanning Tree Protocol** – STP; a link management protocol that is part of the IEEE 802.1 standard for media access control budgets.

**Speech (voice) recognition** – the ability of a computer top to identify and perform actions from a human's spoken command.

**Spreadsheet** – table of values arranged in rows and columns. Each value can have a predefined relationship to the other values.

**Stakeholders** – those with interest in the firm.

**Stocks** – a unit of ownership in a corporation.

**Strategic planning** – long-term planning that provides broad goals and directions for the entire business.

**Stuff It** – compression software for faster file transferring.

**Subinterfaces** – connections to individuals or groups offering additional services.

**Subnetting** – subdivision of a class-based network into subnetworks.

**Substantive law** – defines and regulates rights and duties of parties that may give rise to a cause of action (a claim in both law and fact sufficient to demand judicial attention). The laws of contract, property, and tort are examples of substantive law.

**Supply** – the number of goods or services that will be offered for sale.

**Surveillance** – the act of observing or the condition of being observed.

**Syntax** – the format, which covers the spelling of language components and the rules controlling how components are combined.

**T1 carrier** – most commonly used digital line in the U. S., Canada, and Japan. T1 lines use copper wire and span distances within and between major metropolitan areas.

**Tariff** – a tax on imported items.

**TCP/IP** – Transmission Control Protocol/Internet Protocol; basic communication language or protocol of the Internet. It can also be used as a communications protocol in a private network (either an intranet or an extranet). Whereas the IP protocol deals only with packets, TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also guarantees that packets will be delivered in the same order in which they were sent.

**Teleconference** – to hold a conference via a telephone or network connection. Computers have given new meaning to the term because they allow groups to do much more than just talk. Once a teleconference is established, the group can share applications and mark up a common whiteboard.

**Template** – a plastic or paper diagram that you can put on your keyboard to indicate the meanings of different keys for a particular program; a sheet of plastic with menus and command boxes drawn on it that you place on top of a digitizing tablet; in spreadsheet and database applications, it is a blank form that shows which fields exist, their locations, and their length; in some word processing applications, a template is used in place of a style sheet; DOS uses the term to mean command buffer.

**Tenant** – one who holds or possesses lands or tenements by any kind of title, either in fee, for life, for years, or at will.

**TFTP Server** – Trivial File Transfer Protocol; loads many network devices' initial operating systems or configurations.

**TIF** – Tagged Image File Format; one of the most widely supported file formats for storing bit-mapped images on personal computers.

**Timeline** – organizes and controls a document's content over time.

**Title VII** – of the Civil Rights Act of 1964 is a federal statute that protects employees from sexual harassment in the workplace. Specifically, Title VII prohibits workplace practices that discriminate because of sex for no bona fide job-related reason.

**Token Ring** – type of computer network in which all the computers are arranged (schematically) in a circle. A *token*, which is a special bit pattern, travels around the circle. To send a message, a computer catches the token, attaches a message to it, and then lets it continue to travel around the network.

**Topology** – the physical layout of a local area network.

**Tort** – an unintentional violation of another person's rights, usually due to negligence. A tort is subject to civil action and subsequent judgment for damages payable to the wronged party.

**Trademark** – a distinctive name, symbol, word, picture, or combination of these that is used by a business to identify its products or services.

**Trademark** – a registration process under which a name, logo, or characteristic can be identified as exclusive.

**Transmission media** – the sending of a signal, picture, or other information from a transmitter. In computer networks, *media* refers to the cables linking workstations together.

**Treasury Stock** – stock reacquired by the issuing company and available for retirement or resale. It is issued but not outstanding. It cannot be voted and it pays or accrues no dividends.

**Troubleshoot** – to investigate, determine and settle problems with computer equipment.

**Twisted-pair wire cable** – normal electrical wire.

**Typography** – the art of typeface use and design to improve design or communicate a message.

U. S., Canada, and Mexico.

**Unencrypted data** – referred to as plain text.

**Upgrading** – to replace (a software program) with a more recently released, enhanced version. To replace (a hardware device) with one that provides better performance.

**URL (Uniform Resource Locator)** – the address that defines the route to a file on a web server (HTTP server). They are typed into the browser to access web pages and files, and are embedded within the pages themselves as hypertext links.

**USENET** – a worldwide bulletin board system that can be accessed through the Internet or through many online services. The USENET contains more than 14,000 forums, called *newsgroups* that cover every imaginable interest group.

**Utility** – the ability of a good or service to satisfy a want.

**Vector graphic** – an image that is composed of a series of lines or paths. When these images are resized, the image quality is not usually affected.

**Virtual memory** – an imaginary memory area supported by some operating systems in conjunction with the hardware.

**W-2** – a form that an employer must send to each employee reporting earnings and tax information for the prior year. This form is necessary for completing a tax return.

**W-4** – a form that an employee must complete and furnish his/her employer.

**Wages** – payments for labor or services that are made on an hourly, daily, or per-unit basis.

**WAN** – Wide Area Network; geographically dispersed telecommunications network. A WAN may be privately-owned or rented, but the term usually connotes the inclusion of public (shared user) networks.

**Web server** – a computer that holds the files for one or more sites.

**Web site** – a collection of web files on a particular subject that includes a beginning file called a home page.

**Weighted average** – an average that gives weight to the items in proportion to their frequency or importance.

**Will** – a legal document that gives directions as to how the decedent wishes his or her property to pass upon death.

**Windows** – personal computer operating system from Microsoft, that, together with some commonly used business applications such as Microsoft Word and Excel, has become a standard for individual users in most corporations as well as in most homes.

**WinZip** – Microsoft Windows archiving and compression program that has a graphical user interface front end and is compatible with PKZIP. WINZIP can be obtained as shareware, on evaluation, or as a licensed copy. It is much easier to use than PKZIP for DOS, and includes a helpful, help file.

**Word Processor** – a computer program that provides special capabilities beyond that of a text editor. Word processors screen the user from structural or printer-formatting markup. The most popular word processor is Microsoft Word.

**Worker's compensation** – a benefit paid to an employee who suffers a work-related injury or illness.

**WWW** – World Wide Web; consists of a worldwide collection of electronic documents.

**WYSIWYG** – What You See Is What You Get; pronounced *wiz-ee-wig*; editor or program that allows a developer to see what the end result will look like while the interface or document is being created.