

COURSE TITLE

Digital Applications 1

LENGTH

One Semester
Grades 9-12

DEPARTMENT

Business Education
Barbara O'Donnell, Supervisor

SCHOOL

Rutherford High School

DATE

Spring 2018

Digital Applications 1

I. Introduction/Overview/Philosophy

Digital Applications 1 is designed to enhance keyboarding technique, speed and accuracy, and refine computer application skills. In a world reliant on technology, students need to increase efficiency, accuracy and output. Keyboarding is the most basic and vital skill needed for data entry, data retrieval and document processing. In addition to developing increased keyboarding proficiency, word processing, spreadsheet and database applications will be introduced with the goal to familiarize and reinforce student understanding of these computer applications. Digital Applications 1 will equip students with essential skills and knowledge necessary to use computer hardware and software in daily life and occupational tasks. Students will apply effective oral and written communication techniques in conjunction with proper computer applications strategies.

II. Objectives

Student Objectives

After completing this course, the student will demonstrate the ability to:

- key entire alphabet, numbers and punctuation marks using proper keyboarding technique at a moderate to high level of speed (at least 30 words per minute.)
- demonstrate basic computer file management skills including naming, saving, retrieving, and organizing saved files.
- demonstrate the use of word processing commands, text formatting procedures, as well as editing/proofing procedures.
- format documents properly using correct style, margins and text-wrapping techniques.
- use advanced word-processed features that demonstrate the understanding of basic desktop publishing techniques.
- use database files to effectively retrieve information.
- design, create, save, and retrieve a database file.
- generate reports from a database file.
- design, create, save, and retrieve a spreadsheet file.
- write spreadsheet formulas using basic arithmetic operations as well as algebraic operations.
- use spreadsheet functions, formulas, sorting and filtering techniques to efficiently manipulate spreadsheet data.
- create effective graphs using spreadsheet data.
- integrate word processing, database, and spreadsheet applications.
- determine appropriate software to use for specific applications.
- conduct research and incorporate the research into a final project using word processing, database, and spreadsheet, applications.
- develop an understanding of good digital citizenship.

Course Outline

A. File Management

- a. Naming files/folders
- b. Organizing files/folders

- c. Using Save and Save As effectively
- d. Retrieving files/folders

B. Basic Keyboarding

- a. Use proper keyboarding technique
 - i. Key all letters and numbers using proper technique
 - ii. Key punctuation marks using proper technique and proper spacing
 - iii. Key upper case letters using proper technique
- b. Compose at the computer

C. Word Processing Formatting

- a. Formatting sentences and paragraphs
 - i. Aligning text
 - ii. Indenting
 - iii. Using tabs
- b. Formatting Pages and Documents
 - i. Page breaks (hard and soft)
 - ii. Page numbering
 - iii. Headers and footers
 - iv. Section breaks
 - v. Margins
 - vi. Columns
- c. Graphics
 - i. Searching and using non-copyrighted images
 - ii. Formatting of graphics
 - iii. Adding images
 - iv. Aligning images
 - v. Wrapping text
 - vi. Creating images using drawing tools
 - 1. Changing fill and line attributes
 - 2. Resizing
 - 3. Reshaping
 - 4. Rotating
 - 5. Moving
 - 6. Aligning
 - 7. Grouping and ungrouping
- d. Tables
 - i. Adding and deleting rows/columns
 - ii. Merging cells
 - iii. Using color
 - iv. Using borders

D. Document Structuring

- a. MLA style reports with Works Cited page
- b. Business letters
- c. Resumes
- d. Columnar newsletters with formatted graphics

E. Spreadsheets

- a. Working with cells, rows, and columns

- i. Entering data
 - ii. Editing data
 - iii. Moving data
 - iv. Filling cells
- b. Using Formulas and Functions
 - i. Entering formulas
 - ii. Math operations
 - iii. Entering cell references
 - iv. Relative vs. Absolute References
- c. Using functions
 - i. Sum
 - ii. Average
 - iii. Minimum
 - iv. Maximum
 - v. Count
 - vi. IF
- d. Formatting spreadsheets
 - i. Formatting numbers
 - 1. Decimal places
 - 2. Negative numbers
 - 3. Comma Separators
 - ii. Formatting text
 - 1. Style
 - 2. Size
 - 3. Color
 - 4. Alignment
 - iii. Sorting
 - iv. Inserting and resizing rows and columns
 - v. Inserting a header and/or footer
- e. Charting
 - i. Identifying chart types
 - 1. Understanding various chart types
 - 2. Choosing appropriate chart types
 - ii. Creating and modifying a chart
 - 1. Charting types
 - 2. Changing color
 - 3. Updating the chart with new numbers
 - 4. Adding graphics to charts
 - 5. Adding titles, labels and legends

F. Database

- a. Identifying parts of a database
 - i. Table
 - ii. Field
 - iii. Field name
 - iv. Record
- b. Entering data

- i. Adding a new record
 - ii. Deleting records
 - iii. Editing data
- c. Sorting (ascending, descending and compound sorts)
- d. Finding (Query)
 - i. Using find mode
 - ii. Using simple and compound search queries
- e. Designing a database
 - i. Planning a database
 - ii. Defining fields
 - iii. Setting options for fields
 - iv. Laying out the database
 - v. Adding summary fields (grand summary/sub-summary)
 - vi. Creating reports

G. Integration

- a. Integrating word processing, database, spreadsheets and graphics into a well-designed project that is based on research, surveys, and prior knowledge.
- b. Using various sources to obtain information

H. Digital Citizenship

- a. Exploring aspects of final projects, personal, domestic and global digital citizenship challenges.
- b. Studying the impact of cybercrimes on society.
- c. Exploring the personal and societal impact of unethical use of digital tools.

Note: While direct instruction will be given in the area of computer applications, the use of the computer to complete mainstream assignments will be emphasized.

III. Standards

New Jersey Student Learning Standards

CAREER READY PRACTICES

- CRP1 Act as a responsible and contributing citizen and employee.
- CRP2 Apply appropriate academic and technical skills.
- CRP4 Communicate clearly and effectively and with reason.
- CRP11 Use technology to enhance productivity.

Technology

Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand A. Technology Operations and concepts

Strand B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.

Strand D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

Strand E. Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

Strand F. Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

21st Century Life and Careers

Standard 9.3 CAREER AND TECHNICAL EDUCATION SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS CAREER CLUSTER

9.3.ST-SM.4 Apply critical thinking skills to review information, explain statistical analysis, and to translate, interpret and summarize research and statistical data.

IV. Proficiency Level

This course is open to grades 9-12. However, it is recommended that this course be taken freshman year.

V. Methods of Assessment

The teacher will provide a variety of assessments including but not limited to:

- Keyboarding Technique and Skill
- Timed Writings
- Classwork
- Projects
- Benchmark

Most assessments will be project-based.

VI. Grouping

There is no prerequisite for this course.

VII. Articulation/Scope & Sequence/Time Frame

This is a one semester course.

VIII. Resources

Resources include but are not limited to:

Teacher generated classwork and project assignments

The teacher will use the Internet and other sources to find and build quality assignments to meet the curriculum guidelines, state standards, and students' needs.

Century 21: Computer Applications and Keyboarding 9th Ed
South-Western Educational Publishing. Jack Hoggatt, Ed.D, Jon Shank, Ed.D

IX. Methodologies

The following methods of instruction are suggested: teacher instruction, teacher demonstration, students typing with eyes on wall chart, students typing with eyes on text, students typing with eyes closed, teacher dictating, individual and group projects, etc.

When creating formatted documents, spreadsheets, and databases students will be given instruction and handouts as to the format being taught. They will also be directed to the pages in the book and/or internet resources, such as websites and videos, that show examples and give detailed instruction for proper formatting and step for properly using the software programs.

The teacher will provide a variety of assessments. Among them are: quizzes/tests, group projects, oral presentations, simulations, computer projects, homework, and class participation. The teacher will provide the subject area supervisor with suggestions for changes.

X. Suggested Activities

Students engage in dictated word-association drills. Students engage in ladder drills to improve both speed and accuracy.

Students create formatted documents from both the workbooks and teacher-created handouts. Student may also bring in assignments from other classes that they may need to complete, if teacher approved.

Integrate computer technology/applications with other academic assignments and incorporate public speaking using the computer and other hardware as a visual device.

XI. Interdisciplinary Connections

This course incorporates real-world reading, writing, speaking, listening and spelling skills, as well as computer applications. Students will also be prepared to type and format a research paper, a letter, a statistical report, and a newsletter. Connections are made to mathematics by using a variety of arithmetic formulas. Connections are also made to the disciplines of business and English by means of incorporating these into hands-on projects. In addition, students will also be able to use graphics appropriately, so they can be integrated into projects across the curriculum, enhancing aesthetic appeal.

XII. Differentiating Instruction for Students with Special Needs: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support:

Students with Disabilities

- Use of visual and multi-sensory formats
- Use of assisted technology
- Use of prompts
- Modification of content and student products
- Testing accommodations
- Authentic assessments

Gifted & Talented Students

- Adjusting the pace of lessons
- Curriculum compacting
- Inquiry-based instruction
- Independent study
- Higher-order thinking skills
- Interest-based content
- Student-driven
- Real-world problems and scenarios

English Language Learners

- Pre-teaching of vocabulary and concepts
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Teacher modeling
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding
 - word walls
 - sentence frames
 - think-pair-share
 - cooperative learning groups

XIII. Professional Development

The teacher will continue to improve expertise through participation in a variety of professional development opportunities.

IX. Curriculum Map

Class	September/ February	October/ March	November/ April	December/ May	January/ June
Digital Applications 1	<p>Basic Keyboarding</p> <ul style="list-style-type: none"> Review and reinforce proper keyboarding technique Timed writings <p>File Management</p> <ul style="list-style-type: none"> Name files/folders Save and retrieve files/folders Organize files in folders <p>Word Processing</p> <ul style="list-style-type: none"> Enter and edit text in sentences and paragraphs Format pages and documents Creating tables 	<p>Graphics</p> <ul style="list-style-type: none"> Inserting and editing graphics Create graphics Resize, reshape, rotate, and group objects Change fill and line attributes Arrange around text <p>Spreadsheets</p> <ul style="list-style-type: none"> Work with cells, rows, and columns Enter, edit, and move data Use formulas and functions Analyze data 	<p>Spreadsheets (cont'd)</p> <ul style="list-style-type: none"> Format spreadsheets Sort data Filter data Chart data <p>Database</p> <ul style="list-style-type: none"> Identify parts of a database Enter data Search and sort a database Design and layout a database Format a database Define fields Create reports 	<p>Database (cont'd)</p> <ul style="list-style-type: none"> Perform calculations Add a grand summary and sub summary <p>Digital Citizenship <i>Note: Digital Citizenship will be infused through the course</i></p> <ul style="list-style-type: none"> Discuss global citizenship Discuss cyber crimes Discuss ethics in using technology 	<p>Integration</p> <ul style="list-style-type: none"> Integrate word processing, database, spreadsheets, and graphics into a well thought out project that is based on research, surveys, and prior knowledge