

COURSE TITLE

Digital Applications 1

LENGTH

One Semester
Grades 9-12

DEPARTMENT

Business Education
Barbara O'Donnell, Supervisor

SCHOOL

Rutherford High School

DATE

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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

Course Outline

A. File Management

1. Naming files/folders
2. Organizing files/folders
3. Using Save and Save As effectively
4. Retrieving files/folders

B. Basic Keyboarding

1. Use proper keyboarding technique
 - a. Key all letters and numbers using proper technique
 - b. Key punctuation marks using proper technique and proper spacing
 - c. Key upper case letters using proper technique
2. Compose at the computer

C. Word Processing Formatting

1. Formatting sentences and paragraphs
 - a. Aligning text
 - b. Indenting
 - c. Using tabs
2. Formatting Pages and Documents
 - a. Page breaks (hard and soft)
 - b. Page numbering
 - c. Headers and footers
 - d. Section breaks
 - e. Margins
 - f. Columns
3. Graphics
 - a. Searching and using non-copyrighted images
 - b. Formatting of graphics
 - c. Adding images
 - d. Aligning images

- e. Wrapping text
- f. Creating images using drawing tools
 - i. Changing fill and line attributes
 - ii. Resizing
 - iii. Reshaping
 - iv. Rotating
 - v. Moving
 - vi. Aligning
 - vii. Grouping and ungrouping
- 4. Tables
 - a. Adding and deleting rows/columns
 - b. Merging cells
 - c. Using color
 - d. Using borders

D. Document Structuring

- 1. MLA style reports with Works Cited page
- 2. Business letters
- 3. Resumes
- 4. Columnar newsletters with formatted graphics

E. Spreadsheets

- 1. Working with cells, rows, and columns
 - a. Entering data
 - b. Editing data
 - c. Moving data
 - d. Filling cells
- 2. Using Formulas and Functions
 - a. Entering formulas
 - b. Math operations
 - c. Entering cell references
 - d. Relative vs. Absolute References
- 3. Using functions
 - a. Sum
 - b. Average
 - c. Minimum
 - d. Maximum
 - e. Count
 - f. IF
- 4. Formatting spreadsheets
 - a. Formatting numbers
 - i. Decimal places
 - ii. Negative numbers
 - iii. Comma Separators
 - b. Formatting text
 - i. Style
 - ii. Size
 - iii. Color

- iv. Alignment
 - c. Sorting
 - d. Inserting and resizing rows and columns
 - e. Inserting a header and/or footer
 - 5. Charting
 - a. Identifying chart types
 - i. Understanding various chart types
 - ii. Choosing appropriate chart types
 - b. Creating and modifying a chart
 - i. Charting types
 - ii. Changing color
 - iii. Updating the chart with new numbers
 - iv. Adding graphics to charts
 - v. Adding titles, labels and legends

F. Database

- 1. Identifying parts of a database
 - a. Table
 - b. Field
 - c. Field name
 - d. Record
- 2. Entering data
 - a. Adding a new record
 - b. Deleting records
 - c. Editing data
- 3. Sorting (ascending, descending and compound sorts)
- 4. Finding (Query)
 - a. Using find mode
 - b. Using simple and compound search queries
- 5. Designing a database
 - a. Planning a database
 - b. Defining fields
 - c. Setting options for fields
 - d. Laying out the database
 - e. Adding summary fields (grand summary/sub-summary)
 - f. Creating reports

G. Integration

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

H. Digital Citizenship

- 1. Exploring aspects of final projects, personal, domestic and global digital citizenship challenges.
- 2. Studying the impact of cybercrimes on society.
- 3. 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.

Student Outcomes

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.
- analyze data presented in graphs
- 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.

New Jersey Student Learning Standards

CAREER READY PRACTICES

CRP1 Act as a responsible and contributing citizen and employee.

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP2 Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract

concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation

CRP4 Communicate clearly and effectively and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP11 Use technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

TECHNOLOGY STANDARDS

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.

8.1.12.A.2 - Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.

8.1.12.A.4 - Construct a spreadsheet workbook with multiple worksheets, rename tabs to reflect the data on the worksheet, and use mathematical or logical functions, charts and data from all worksheets to convey the results.

8.1.12.A.5 - Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.

8.1.12.D.1 - Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.

8.1.12.E.1 - Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

8.1.12.E.2 - Research and evaluate the impact on society of the unethical use of digital tools and present your research to peers.

8.1.12.F.1 - Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

III. Proficiency Level

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

IV. 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.

V. Grouping

There is no prerequisite for this course.

VI. Articulation/Scope & Sequence/Time Frame

This is a one semester course.

VII. 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

VIII. 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.

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. 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.

XI. Differentiating Instruction for Students with Special Needs: Students with Disabilities, Students at Risk, 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.

Differentiating in this course includes but is not limited to:

Differentiation for Support (ELL, Special Education, Students at Risk)

- Peer mentoring on problems
- Differentiated teacher feedback on assignments
- Re-teaching and review
- Guided note taking
- Multi-media approach to accommodating various learning styles
- Use of visual and multi-sensory formats
- Use of assisted technology
- Authentic assessments

Differentiation for Enrichment

- Topic selection by interest
- Elevated questioning techniques
- Adjusting the pace of lessons
- Higher-order thinking skills

XII. Professional Development

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

XIII. Curriculum Map/Pacing Guide

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|--|----------------|---|---|--|
| <p>Basic Keyboarding</p> <ul style="list-style-type: none"> • Review and reinforce proper keyboarding technique • Timed writings | <p>3 weeks</p> | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Differentiated teacher feedback on assignments • Re-teaching and review • Use of visual and multi-sensory formats • Authentic assessment <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Topic selection by interest • Elevated questioning techniques • Adjusting the pace of lessons | <p><i>Standards:</i> CRP1, CRP2, 8.1.12.A.2, 8.1.12.D.1</p> | <p><i>Formative Assessment:</i> Warm up keyboarding techniques, 30 second drills to enhance speed</p> <p><i>Summative Assessment:</i> Timed writing – 3 minute timed writings for speed and accuracy</p> |
| <p>File Management</p> <ul style="list-style-type: none"> • Name files/ folders • Save and retrieve files/ folders • Organize files in folders | <p>1 week</p> | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Elevated questioning techniques • Adjusting the pace of lessons • Higher-order thinking skills | <p><i>Standards:</i> CRP11, 8.1.12.D.1</p> | <p><i>Formative Assessment:</i> Teacher will assess proper keyboarding technique and assess files in folders</p> <p><i>Summative Assessment:</i> Quiz on file management</p> |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|----------------|---|--|--|
| Word Processing <ul style="list-style-type: none"> • Enter and edit text in sentences and paragraphs • Format pages and documents • Creating tables | 2 weeks | <i>For Support:</i> <ul style="list-style-type: none"> • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking • Authentic Assessments <i>For Enhancement:</i> <ul style="list-style-type: none"> • Elevated questioning techniques • Adjusting the pace of lessons • Higher-order thinking skills | <i>Standards:</i> CRP2, 8.1.12.D.1 | <i>Formative Assessment:</i> Proofreader marks worksheet, tables project <i>Summative Assessment:</i> Standards and formatting toolbar quiz, Project requiring use of tables, proofreader marks quiz |
| Graphics <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 | 2 weeks | <i>For Support:</i> <ul style="list-style-type: none"> • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking <i>For Enhancement:</i> <ul style="list-style-type: none"> • Adjusting the pace of lessons • Higher-order thinking skills • Topic selection by interest | <i>Standards:</i> CRP2, 8.1.12.D.1 | <i>Formative Assessment:</i> Beach scene, modes of transportation, quiz on notes <i>Summative Assessment:</i> Home Sweet Home Project |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|--|----------------|---|--|--|
| <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 • Format spreadsheets • Sort data • Filter data • Chart data • What-IF Analysis | <p>6 weeks</p> | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Peer mentoring on problems • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking • Use of visual and multi-sensory formats • Authentic Assessments <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Adjusting the pace of lessons • Higher-order thinking skills • Topic selection by interest | <p><i>Standards:</i> CRP1, CRP4, CRP11, 8.1.12.A.4, 8.1.12.E.1</p> | <p><i>Formative Assessment:</i> Shortcuts and toolbars packet, Spreadsheet packet 1 – calculating sales, Spreadsheet packet 2 (functions), Payroll Packet (calculate gross pay, net pay, tax), Math Packet, Language, Continuing Education and Mountain Gear (charts), Campus Clothiers project (what-if analysis)</p> <p><i>Summative Assessment:</i> Walk and Rock Music Project (formulas), Stocks Project (formulas), Quiz on Excel terms, Deli, ABC and Stop & Shop Excel projects (payroll spreadsheets), Olympics Spreadsheet, Candy Sales and Cookie Sales Project Benchmark – E-Music Pro Annual Projected Income Project (all excel)</p> |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|--|----------------|--|--|---|
| <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 • Perform calculations • Add a grand summary and sub summary | <p>5 weeks</p> | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Peer mentoring on problems • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking • Use of visual and multi-sensory formats <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Adjusting the pace of lessons • Higher-order thinking skills • Topic selection | <p><i>Standards:</i> CRP1, CRP2, CRP11, 8.1.12.A.5, 8.1.12.D.1</p> | <p><i>Formative Assessment:</i> Simple Searches, compound searches, Simple and compound sorts (utilize States and Territories and Planets database); Gradebook and Personnel (layouts database), Movie Database, Ice Cream and Seminar (summary and sub-summary)</p> <p><i>Summative Assessment:</i> FileMaker Quiz, States and Territories Project – sorts and searches; Valley Manufacturing Database (create, query, sort and analyze data) Benchmark – College database (research, create database, create 5 layouts, perform queries, format layouts, grand summary and sub summary)</p> |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|----------------|---|---|---|
| <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>1 week</p> | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Peer mentoring on problems • Differentiated teacher feedback on assignments • Re-teaching and review • Guided note taking <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Adjusting the pace of lessons • Higher-order thinking skills • Topic selection | <p><i>Standards:</i> CRP1, 8.1.12.E.2, 8.1.12.F.1, 8.1.12.D.1</p> | <p><i>Formative Assessment:</i> Website Reliability Checklist – evaluating websites; Computer Crimes terms and discussion questions, Social Networking Sites and College Admissions – 1 page reaction in MLA format</p> <p><i>Summative Assessment:</i> Quiz on digital citizenship / Credit Card Scam Case Study</p> |