COURSE NUMBER AND TITLE: 496 Computer Applications I

GRADE: 10, 11, 12

LEVEL: II

CREDITS: 5

PREREQUISITE: None

BASIC TEXT(S): Learning Microsoft Word 2000, Suzanne Wiexel, DDC Publishing
Learning Microsoft Excel 2000, Cathy Vento, DDC Publishing
Learning Microsoft PowerPoint 2000, Sue Plumnley, DDC Publishing

SUPPLEMENTAL READING(S): Learning Microsoft Word 97, Iris Blanc, DDC Publishing
Learning Microsoft Excel 97, Iris Blanc, DDC Publshing
Learning Microsoft PowerPoint 97, Iris Blanc, DDC Publishing

REQUIRED MATERIALS:
One personal computer per student, laser printer, color printer, ***Smartboard***® , textbooks, Microsoft Office Software, Internet.

COURSE DESCRIPTION:
This course will cover the Microsoft Office software, which includes: Microsoft Word, Microsoft Excel, and Microsoft PowerPoint. An introduction to Windows 2000 is also covered.

MISSION RELATED GOALS:
This course fosters communication and problem-solving skills. Computer skills will be used throughout the student's lives.

STUDENT EXPECTATIONS FOR LEARNING ADDRESSED:
This course teaches students to communicate effectively using a variety of computer applications: Word, Excel, and PowerPoint. They are also solving complex problems while using these applications.

GENERAL PERFORMANCE OBJECTIVES
Students will be able to use the Microsoft Office Program (Word, Excel and PowerPoint) to complete word processing, spreadsheets and presentation assignments in a professional manner.

Students will be able to use the Internet to research information for computer application assignments.

CURRICULUM FRAMEWORK LEARNING STANDARDS:

Standard 1 Demonstrated proficiency in the use of computers and applications as well as an understanding of concepts underlying hardware, software, and connectivity.

Basic Operations

G9-12: 1.1 Identify the platform, version, properties, function, and interoperability of computing devices including a wide range of devices that compute and/or manage digital media.

G9-12: 1.2 Use online help and other support to learn about features of hardware and software, as well as to assess and resolve problems.

G9-12: 1.4 Explain effective backup and recovery strategies.

G9-12: 1.5 Explain criteria for evaluating hardware and software appropriate for a given task (e.g., features, versions, capacity).

G9-12: 1.6 Demonstrate keyboarding techniques, including the use of keyboard shortcuts, to complete assignments efficiently and accurately. (For students with disabilities, demonstrate alternate input techniques as appropriate.)

G9-12: 1.7 Identify and assess the capabilities and limitations of emerging technologies.

Word Processing/Desktop Publishing

G9-12: 1.8 Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials.

G9-12: 1.9 Use editing features appropriately (e.g., track changes, insert comments).

G9-12: 1.10 Identify the use of word processing and desktop publishing skills in various careers.

Spreadsheet

G9-12: 1.18 Define and use functions of a spreadsheet application (e.g., sort, filter, find).

G9-12: 1.19 Enter formulas and functions; use the auto-fill feature in a spreadsheet application.

G9-12: 1.20 Explain and use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets).

G9-12: 1.21 Differentiate between formulas with absolute and relative cell references.

G9-12: 1.22 Use multiple sheets within a workbook, and create links among worksheets to solve problems.

G9-12: 1.23 Import and export data between spreadsheets and other applications.

G9-12: 1.25 Explain how various formatting options are used to convey information in charts or graphs.

G9-12: 1.26 Identify the use of spreadsheet skills in various careers.

Internet, Networking, and Online Communication

G9-12: 1.27 Use search engines and online directories. Explain the differences among various search engines and how they rank results.

G9-12: 1.28 Explain and demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators).

G9-12: 1.29 Describe good practices for password protection and authentication.

G9-12: 1.31 Identify career options in network technologies.

Multimedia

G9-12: 1.32 Identify technology tools (e.g., authoring tools) that can be used to create a multimedia product.

G9-12: 1.33 Use a variety of applications to plan, create, and edit multimedia products (e.g., slide presentations, videos, animations, simulations, pod casts).

G9-12: 1.34 Link information residing in different applications (e.g., linking a chart in a word-processing document to the spreadsheet where it was created).

G9-12: 1.35 Identify career options in multimedia and software development.

Web Authoring

G9-12: 1.36 Distinguish between effective and ineffective Web site designs; explain the reasons.

G9-12: 1.37 Explain terminologies related to Web page authoring (e.g., HTML, URL, links, browsers, plug-ins, and Web servers).

G9-12: 1.38 Use HTML or Web-authoring tools to create, edit, and publish well organized Web sites with effective navigation.

G9-12: 1.41 Identify career options in Web design, development, and management.

Standard 2. Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.

Ethics

G9-12: 2.1 Demonstrate compliance with the school's Acceptable Use Policy.

G9-12: 2.2 Explain issues related to the responsible use of technology (e.g., privacy, security).

G9-12: 2.3 Explain laws restricting the use of copyrighted materials.

G9-12: 2.4 Identify examples of plagiarism, and discuss the possible consequences of plagiarizing the work of others.

G9-12: 2.5 Write correct in-text citations and reference lists for text and images gathered from electronic sources.

G9-12: 2.6 Give examples of the appropriate and responsible use of communication tools (e.g., chats, instant messaging, blogs, wikis).

G9-12: 2.7 Discuss misuse of technology for personal and commercial reasons (e.g., software piracy, unauthorized file sharing/downloading, virus spreading, and hacking); explain possible consequences.

Society

G9-12: 2.9 Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including Web sites.

G9-12: 2.10 Analyze the values and points of view that are presented in media messages.

Health and Safety

G9-12: 2.12 Evaluate school and work environments in terms of ergonomic practices.

G9-12: 2.14 Explain and use practices to protect one's personal safety online (e.g., not sharing personal information with strangers, being alert for online predators, reporting suspicious activities).

G9-12: 2.15 Explain ways individuals can protect their technology systems and information from unethical users.

Standard 3. Demonstrate ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation.

Research

G9-12: 3.1 Devise and demonstrate strategies for efficiently collecting and organizing information from electronic sources.

G9-12: 3.2 Compare, evaluate, and select appropriate electronic resources to locate specific information.

G9-12: 3.3 Select the most appropriate search engines and directories for specific research tasks.

G9-12: 3.4 Search for information within an electronic source (e.g., using the find command).

UNITS AND THEMES

Unit	No. Days	Text	Standards
I. Introduction to Windows 2000 File Management - Windows Basics - Creating Folders - Creating Shortcuts - Windows Explorer - Control Panel - Word Pad - Paint - Calculator	5	Windows Textbook	1.1, 1.2, 1.4, 1.5 1.6, 1.7, 2.1, 2.2, 2.4, 2.7, 2.14, 2.15
II. Learning Word	35	Learning Word Text Exercises 1 – 103 and other supplemental handouts.	1.8, 1.9, 1.10, 2.9, 2.10.
Letters, memorandums, announcements, letters of application	10		
Reports, Mail Merge	5		
Outlines	2		
Tables and Columns	10		
Resumes	3		
Newsletters, Graphics, ClipArt	5		
III. Learning Microsoft Excel	25	Microsoft Excel Text and other supplemental handouts Lessons 1 – 44	1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.25, 1.26
Excel Basics	2		
Using Simple Formulas	2		
Commission Reports	2		
Payroll (gross pay, taxes, net pay)	3		
Budgets	2		
Inventory	1		
Expense Reports	1		
Invoices	1		
Charting (pie, line, column)	3		
If Statements	3		

Advanced Excel Techniques - transposing, - paste special - data base	5		
IV. Learning Microsoft PowerPoint	25	PowerPoint Text Learning Microsoft PowerPoint Lessons 1 - 32	1.32, 1.33, 1.34,1.35, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4
Menu, screen, tools, views	1		
Create simple slide show in normal view/printing handouts	2		
Create slide show in outline view	1		
Slide master/Title master - headers/footers - page numbers - logos - change bullets	3		
Advanced Layouts - word table - excel chart - organization chart	3		
Graphics/Autoshapes/Drawing/ Watermarks/ Hyperlinks	3		
Transitions, Timings, Effects. Custom Animation	2		
Projects: Boston, Finland, Biography, Own Topic	10		

COURSE OUTLINE:

In **Microsoft Word**, students will create business letters, memos, reports, outlines, resumes, tables, columns, mail merge, and newsletters. The Internet is integrated into the study of Word. Students will use the Internet for research and for graphics. Desktop Publishing using Microsoft Word will also be covered.

In **Microsoft Excel**, students will learn to create spreadsheets. Payroll, inventory reports, income statements, statistics, if statements and charts (pie, line, bar) are covered. Formulas are taught including: SUM, MINIMUM, MAXIMUM, AVERAGE, IF, and COUNT.

In **Microsoft PowerPoint**, students will learn to create slide show presentations using Templates, Clip Art, Animation Effects, Transitions and Timings. Students use the Internet to research information for their PowerPoint slide shows. The students learn proper presentation techniques and present their slide shows to the class. Independent projects are completed at the end of the course.

SUGGESTED INSTRUCTIONAL STRATEGIES

- Lecture
- Computer typed exercises
- Projects
- Use of a variety of questioning techniques
- Board work
- Student presentations
- Variety of Assessment (written tests, computer generated tests, teacher observation, peer editing)

SUGGESTED INTEGRATED ACTIVITIES

Students create PowerPoint Presentations on Boston, Mass., and Helsinki, Finland. This integrates with U.S History and World Studies. Students create a PowerPoint Presentation on an Endangered Species. This project integrates Science/Ecology classes. Students create tri-fold brochures on Tewksbury businesses. This project integrates Marketing/Management classes. Students learn to create a payroll in Excel. This integrates with Accounting and Math classes.

USE OF TOOLS/TECHNOLOGY

Students use PC Computers to complete all class assignments and projects. Students use printer and scanner as well. Teacher uses ***Smartboard*** ® and projector connected to teacher computer for demonstrations.

ASSESSMENT TECHNIQUES

- Daily class work produced on computers
- Weekly written tests
- Projects – assessed using school-wide rubric
- Teacher observation – cooperative learning, listening and following directions
- Homework
- Class participation, attitude