COURSE TITLE AND NUMBER: 497 Computer Applications II

LEVEL: II   **CREDITS:**   5   **PREREQUISITES:** Computer Applications I
                                                                                    A grade of "B" or better

BASIC TEXT: Learning Microsoft Word 2000, DDC Publishing
                            Learning Microsoft Excel 2000, DDC Publishing
                            Learning Microsoft PowerPoint 2000, DDC Publishing
                            Learning Microsoft Access 2000, DDC Publishing

REQUIRED MATERIALS:
PC Computer, Laser Printer, Color Inkjet printer, Textbooks, Scanner, **Smartboard®** for demonstrations

COURSE DESCRIPTION:
This course will focus on the advanced features of Microsoft Office and the integration of these applications. Students will use this powerful business tool to complete comprehensive projects using Word, Excel, Access and PowerPoint. The Internet will be used to learn advanced search techniques and for research for student projects. Web Page Design will be introduced as well as Desktop Publishing. Gateway PC's will be the personal computers used for this course.

MISSION RELATED GOALS:
While using computer applications, this course will foster the development of communications and problem-solving skills. Students will use their higher order thinking skills to respond appropriately to a given situation or problem.

STUDENT EXPECTATIONS FOR LEARNING ADDRESSED:
Students will communicate effectively and work towards a common goal while utilizing their problem solving skills to solve complex problems. The application of these expectations will allow students to contribute to the wider computer technology global society.

GENERAL PERFORMANCE OBJECTIVES:
Students will be able to use the Microsoft Office Professional program to complete word processing, spreadsheets, database, and presentation assignments in a professional manner. Students will use more advanced features in this second computer application's course and will also learn the Access Database Program. Extensive use of the Internet for graphics and project research will be a major component of this course. Students will also be required to present their projects to the class using the **Smartboard®**. This will prepare them for college and the business world.

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.

Database

G9-12: 1.11 Explain the importance of designing the structure of a database to meet its intended goals.

G9-12: 1.12 Duplicate the structure of a database without data.

G9-12: 1.13 Save database files in various formats.

G9-12: 1.16 Use database features to create mailing labels, form letters, and perform mail merges.

G9-12: 1.17 Identify the use of database 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 terminology related to Web page authoring (e.g., HTML, URL, links, browsers, plug-ins, 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).

COURSE OUTLINE:

Microsoft Office Techniques Review	Weeks	Text	
Word	2	Learning Microsoft Word 2000	1.8, 1.9, 1.10, 2.9, 2.10
Excel	2	Learning Microsoft Excel 2000	1.18, 1.9, 1.20, 1.21, 1.22, 1.23, 1.25, 1.26
PowerPoint	2	Learning Microsoft PowerPoint 2000	1.32, 1.33, 1.34, 1.35, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4
Introduce Microsoft Access Database	3	Learning Microsoft Access 2000	1.11, 1.12, 1.13, 1.16, 1.17
Microsoft Office Web Page	2	Learning to Create a Web Page with Microsoft Office	1.36, 1.37, 1.38, 1.41
Comprehensive Projects using Microsoft Word, Excel, PowerPoint, Access, and Internet	8	DDC Internet Projects and Exercises	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
Total	19		

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. Students will use Word to create Web Pages.

In **Microsoft Excel**, students will further their understanding of spreadsheet capability. Payroll, inventory reports, income statements, statistics, if statements and charts (pie, line, bar) are covered. Formulas are taught including: SUM, MINIMUM, MAXIMUM, AVERAGE, IF, PMI, and COUNT.

In **Microsoft PowerPoint**, students will 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.

In Microsoft Access, students will learn to create a database, enter data, sort data, filter, query and create reports. Students will understand the benefits of using a powerful database program like Access over a spreadsheet program.

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)

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 projection screen connected to teacher computer for demonstrations.

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

SUGGESTED INTEGRATED ACTIVITIES

Project 1 Create a web page using a Microsoft Word Table format, entitled "My Favorite Links"

Project 2 Using PowerPoint, create a slide show on a European Country of their choice. Slides include: map, population, currency, transportation, geography, languages, history, etc. Part II. Using Word, create a three column newsletter for a travel agency that promotes their country.

Project 3 Using PowerPoint; create a slide show entitled "Machines that Changed the World." Students research 20 technological advances over the last 100 years. Part II. Using Word and the drawing tools, create a timeline plotting twenty of their inventions using graphics.

Project 4   Using PowerPoint, create a slide show entitled "Endangered Species." Students choose an endangered species from the list off the Internet. They create 10 slides on their chosen species.

Project 5 Using PowerPoint, create a slide show on a historical person using the Biography.com web site.

Project 6 Using PowerPoint, students choose a College/University of their choice and create an informational slide show about the college. Slides include: enrollment, majors, demographics, location, sports, clubs, Academic Requirements, etc.

The above projects are all evaluated using the school-wide rubric. Students present their work to the class using the *Smartboard*®. The content of the projects as well as their presentation to the class is evaluated using the school-wide rubric.

USE OF TECHNOLOGY:

1.   Daily use of computers, printer, and software.
2.   Use of HP Scanner
3.   Teacher and student demonstrations on *Smartboard*®

ASSESSMENT:

1.   Daily class work produced on computers
2.   Weekly written quizzes
3.   Projects – Grading Rubric for each project
4.   Oral Presentations
5.   Final Exam
6.   Teacher Observation
7.   Homework
8.   Class participation, attitude, attendance