Course Title: **Computer Technology Grade 8**

Course Description:

The primary goal of the Computer Technology program at WRMS is to develop knowledge of ethical, responsible use of technology tools in a society that relies heavily on information knowledge for decision making. Students become proficient in the use of industry standard applications to access, manage, integrate, evaluate, and create information within the context of the core subjects.

Essential Questions and Concepts:

How have events in history influenced change in the computer industry? How have changes in technology affected our lives?
Why do innovations seem to happen at a faster rate now as compared to 100 years ago?
How have the fields of computers and information technology evolved in the past 50 years? Twenty-five years? Past year? In the past month?
How has the Internet changed the way we view information and who owns it?
What does it mean to be a citizen in the 21st century?
How do I know a website is reliable?
What is the correct format to cite an Internet source in a bibliography?
What type of information should be included in a publication about an important health issue?
How would this information change based on a specific audience?
Why is typing or keyboarding important?
How does your digital portfolio represent your technology skills and knowledge acquired during middle school?

Topics Covered:

- Technology Operations and Concepts: History of Computing and Keyboarding
- Critical Thinking, Problem Solving, and Decision Making: Careers in Computer Technology OR Travel Budget & Itinerary
- Information Literacy & Digital Citizenship:: The Perils of Online Research
- Creativity and Innovation through Technology: The Inventor in YOU, Integrated Health Project or Back in Time Travel Brochure.
- Communication and Collaboration using Technology: Digital Portfolio & PSA

Learning objectives:

Students will…

- Describe and apply common software features (e.g., spellchecker and thesaurus to ensure accuracy of word-processing documents; formulas and chart generation in spreadsheets, and insertion of pictures, movies, sound, and charts in presentation software) to enhance communication to an audience, promote productivity, and support creativity.
- Describe how to use online environments or other collaborative tools to facilitate design and development of materials, models, publications, and presentations; they know how to apply utilities for editing pictures, images, and charts.
- Know how to use telecommunications tools (e.g., e-mail, discussion groups, and online collaborative environments) to exchange data collected and learn curricular concepts by communicating with peers, experts, and other audiences.
- Know how to use a variety of media and formats to design, develop, publish, and present products (e.g., presentations, newsletters, Web pages) that effectively communicate information and ideas about the curriculum to multiple audiences.
- Know how to conduct an advanced search using Boolean logic and other sophisticated search functions; they know how to evaluate information from a variety of sources for accuracy, bias, appropriateness, and comprehensiveness.
- Know how to identify and implement procedures for designing, creating, and populating a database; and, in performing queries, to process data and report results relevant to an assigned hypothesis or research question.

- Know how to select and use information and communication technology tools and resources to collect and analyze information and report results on an assigned hypothesis or research question.
- Identify two or more types of information and communication technology tools or resources that can be used for informing and solving a specific problem and presenting results, or for identifying and presenting an informed rationale for a decision.
- Describe the information and communication technology tools they might use to compare information from different sources, analyze findings, determine the need for additional information, and draw conclusions for addressing real-world problems.
- Identify legal and ethical issues related to use of information and communication technology, recognize consequences of its misuse, and predict possible long-range effects of ethical and unethical use of technology on culture and society.
- Discuss issues related to acceptable and responsible use of information and communication technology (e.g., privacy, security, copyright, file sharing, plagiarism), analyze the consequences and costs of unethical use of information and computer technology (e.g., hacking, spamming, consumer fraud, virus setting, intrusion), and identify methods for addressing these risks.
- Examine issues related to computer etiquette and discuss means for encouraging more effective use of technology to support effective communication, collaboration, personal productivity, lifelong learning, and assistance for individuals with disabilities.
- Recognize hardware and software components used to provide access to network resources and know how common peripherals (e.g., scanners, digital cameras, and video projectors) are accessed, controlled, connected, and used effectively and efficiently.
- Know how to evaluate, select, and use appropriate technology tools and information resources to plan, design, develop, and communicate content information, appropriately addressing the target audience and providing accurate citations for sources.
- Know how to identify appropriate file formats for a variety of applications and apply utility programs to convert formats, as necessary, for effective use in Web, video, audio, graphic, presentation, word-processing, database, publication, and spreadsheet applications.
- Know how to use the electronic dictionary, thesaurus, spelling and grammar checker, and editing features to maximize accuracy in development of technology-produced products.
- Examine changes in hardware and software systems over time, and identify how changes affect business, industry, education, government, and individual users.
- Identify strategies and procedures for efficient and effective management and maintenance of computer files in a variety of different media and formats on a hard drive and network.
- Know how to solve basic hardware, software, and network problems that occur during everyday use; protect computers, networks, and information from viruses, vandalism, and unauthorized use; and access online help and user documentation to solve common hardware, software, and network problems.

Common Activities, Demonstrations and Assessments

- Demonstration navigating through Windows XP and Novell Logins Organize Network Folders and Files.
- History of Computers from The History Channel's Modern Marvels – Web Quest with Open Ended Question and project "The inventor in you"
- Keyboarding - Type to Learn Lessons 1 through 25 with Accuracy 95% and 25wpm. (Advance Level)
- Information Literacy: The Perils of Online Research Paper for class.
- Publishing - Travel Back in Time Brochure OR Integrated Health Brochure on Prevention
- Top Careers in Two Years: Computers and Information Technology Spreadsheets or Database
- Word Processing using Microsoft Word or Publisher: Two Letters and Reflections for portfolio artifacts.
- Multimedia: Microsoft PowerPoint Digital Portfolio and Microsoft Movie Maker: PSA or A Perfect Day project with blue screen.
- Website Design – Introduction.