Computer Applications

The Computer Applications course offers valuable 21st century technology skills in an engaging and fun hands-on environment. Students gain experience in topics including academic and business computer applications, web design, and programming languages. These skills are immediately applicable for current educational uses and create the necessary aptitudes for future endeavors.

Computer Usage

Computer usage is of the utmost importance for any student's present and future academic success. Students are taught the basics and become competent in the proper usage of computers and technology.

- Boot, access, and exit an operating system
- Use icons, function keys, pull-down menus, help screens, information bars where applicable and shortcuts
- Proper use of computer equipment and peripherals
- Proper file management and printing
- Opening and closing of basic applications
- Demonstrate the ability to save and retrieve files using a multitude of storage devices (network server, flash drive, local HDD, cloud server)

Spreadsheet Software

Spreadsheet software offers an array of organizational, mathematical and logical skills. These range from the use of formulas and mathematical operators to setting up a project in a clear and concise manner. These skills directly translate to a student's current and future academic endeavors. Additionally, the topics learned provide the foundational skills needed for future careers and employment.

The spreadsheet projects are done in a fun manner in which students are participating, engaged, and eagerly following the work.

- Enter and edit data (numbers and letters, move, copy, paste, fill)
- Use formula operators and math functions (add, subtract, divide, multiply, average, and others)
- General spreadsheet formatting tools
- Create data arrays
- Link spreadsheets to form multi-sheet projects
- Arrange the spreadsheet in a professional manner
- Format and print a spreadsheet report
- Construct graphs and charts from spreadsheet information
- Create functional spreadsheet programs

Word Processing Software

Word processing applications are crucial for current and future academic work. The tools used are universal to many other software applications. The ability to create and edit documents is paramount to any academic situation or employment. Topics are instructed in a manner that is engaging and encourages creativity.

- Manage text (edit, format, font choice, size, style, color)
- Use writing tools
- Insert data and pictures (charts, tables, images, clip art)
- Format documents (page numbers, headers, footers)
- Copy, paste, and import text, data and other objects
- Academic and Business style writing formats
   o Letters, memos and other documents
   o Use MLA format for document writing, parenthetical references, etc.
- Use drawing tools in text documents
- Produce a multi-page document with acceptable format and accuracy
- Change document layout (margins, landscape) and printer settings
- Construct a personal CV and cover letter

Digital Presentation Software

Digital presentations have become the standard in both the classroom and the boardroom. They offer clear and concise overviews of a topic with necessary language, data, images and other effects. Not only do students gain organizational skills, but they also learn about presenting a topic to the class.

- Produce a slide show with a minimum of 15 quality slides (images/clip art, animation, transition, writing, structured properly)
- Create new slides
- Edit slides
- Format slides
- Add and format images/clip art
- Add and edit writing
- Copy, paste, and import data onto slides
- Play show for instructor and/or class to receive full credit
- Present slide show to class and discuss topic(s).

Web Design

Students create websites from code using HTML, CSS and Javascript languages. Students learn proper language structure, organizational skills, logical thinking and project management. Projects are creative, fun and students enter the dynamic world of computer science.

- Write beginning-intermediate HTML code
- Write beginning-intermediate CSS code

- Write beginning Javascript code
- Create web pages from scratch
- Create external CSS stylesheets and JS pages
- Use a web server
    - Upload files, images and other information
- Create a web site
- Use open source code
    - Students first learn the basics and are then able to modify more advanced open source code

Basic Programming (8th Grade)

Students are introduced to computer programming by writing small, fun programs in code that are applicable to their everyday lives. Computer programming teaches logic, structure, mathematical concepts and a strong attention to detail. The skills, thinking and aptitudes learned create strong abilities for present and future academic and employment endeavors. Some of the structures covered in programming include:

- Write and edit a programming language
- Create basic computer programs
- Using this programming language students will learn:
    - Declarations
    - Conditional statements
    - For loops
    - Switches
    - While statements
    - Do/while statements
    - Mixing many of the above styles to create simple functioning programs and perform tasks.

Scratch

Scratch is a development application developed by MIT that offers the functionality of computer programming. Students program their own interactive stories, characters and games. Blocks of code are placed strategically to create the desired results. Along with a basic understanding of programming concepts, this helps students begin to utilize their logical, creative and organizational aptitudes to have fun, and learn more about computer science.

Research Skills

Students are taught research skills to find articles and materials from a variety of sources. The proper format to cite and quote references is also covered. Some of the sources student learn to search include:

- Academic Databases
- Websites

- Online Libraries
- Online Periodicals and Journals

<u>Keyboarding Skills</u>

Students will practice keyboarding in a various number of ways to help their speed and accuracy. Not only is keyboarding efficiency necessary in almost every academic and vocational application, but testing has also moved to computer-based formats making it an even more essential skill.

<u>I-Search Project (8th Grade)</u>

The AMS Computer Department has collaborated with AMS English teachers over the years to instruct and reinforce writing and research topics. Students receive help and direction for required work needed for the I-Search. This collaborative teaching has not only benefitted students by directly resulting in higher quality work, but has kept them on schedule during a very stressful time of their eighth grade year. Additionally, many students have created very informative web sites and digital presentations as part of their I-Search. Therefore, the computer and technology skills learned in this class are immediately applicable to a student's education and academic success.

<u>Miscellaneous Topics Covered</u>

Other topics covered include:

- Digital art
- Image manipulation
- Cyber bullying
- Plagiarism
- Internet safety
- Internet shopping
- Information safety and security

5. Excellent	4. Good	3. Basic	2. Below Standard	1. Poor/Failing
Excellent work/project. Goes beyond the project requirements.	Good work/project.	Basic work/project.	Below standard work/project.	Poor or missing work/project.
Work/project instructions are followed and satisfy all of the objectives.	Work/project instructions are followed and satisfy all or almost all of the objectives.	Most work/project instructions are followed and satisfy many of the main objectives.	Project/work needs overall improvement.	Project/work extremely weak or non-existent.
Work/project requirements are fulfilled.	Work/project requirements are fulfilled.	Most work/project requirements are fulfilled.	Work/project satisfies few requirements.	No or extremely poor work/project that does not fulfill requirements.
Student displays a strong proficiency of the subject.	Student displays a solid proficiency of the subject.	Student displays a satisfactory proficiency of the subject.	Student displays minimal passing proficiency of the subject.	Student displays weak or no proficiency of the subject.