Goals and Course Outline

DEPARTMENT: Technology DATE: 2015-2016

COURSE TITLE: Computer 1 COURSE NUMBER: 1411

Course Description

This course provides a foundation for students in the use of computers in preparation for completing assignments and projects throughout high-school and college. It includes instruction on the development and history of the modern desktop computer. Examining and explaining computer hardware and how they relate to the operation and maintenance of the computer. Understanding network concepts, using the Internet for research and how to verify and cite content. Introduction to Microsoft Office and through class projects and assignments have students present information in an acceptable format.

The fundamental principles of computer applications are presented in the mandatory part of the curriculum. The core curriculum seeks to develop in students

• Skills necessary to successfully use a computer as a learning tool in all subject disciplines.

• Ethical uses of technology are reinforced at every level of the curriculum.

• Sequential thinking skills that encourages students to evaluate expected and unexpected results.

• The opportunity to deepen their understanding and develop specialized skills.
Strategic Goals

The reading, classwork and hands-on exercises and lab work will promote critical thinking and challenge the student to seek solutions through technology. The presentation of projects will promote both verbal and technology skills.

- To develop a working knowledge of commercially prepared software
- To promote ethical values pertaining to the use of the computer
- To prepare students for future technological challenges
- To enhance problem solving skills
- To create an environment for interdisciplinary learning
- To stimulate student potential for creativity.

Strategic Goal Assessment Criteria

For each unit the students will have homework assignments that reinforce class content. There will be Multiple Choice Quizzes to assess the students understanding of the material. A project will be assigned to determine how the application is used with accuracy and creativity.

Test and Quiz Format

Tests and quizzes account for 45% of the grade. Tests are given at the end of each major unit. Quizzes are given periodically and are always announced in advance. Quizzes will be a combination of objective questions and/or practical tests done on the computer. Home Work Assignments and Projects account for 45% of the grade. These assignments are to be completed individually and submitted through the website (or as instructed). These exercises are designed to reinforce classroom practices and assist the student in gaining greater proficiency in a particular skill. Class
Participation accounts for 10% of the grade.

Homework Format

Assignments are given on a regular basis to allow the student an opportunity to apply the skills learned and as a barometer to establish understanding of the material.

Lab Format

Students are required to complete lab assignments in a timely fashion. Students may or may not be supplied with a base document, a detailed rubric and a class period to complete an assigned project based upon recent class content. The projects are graded as homework assignments and the students get feedback on the submission.

Internal Assessment Grading Criteria

Tests/Quizzes 45% Homework/Projects 45% Class Participation 10%

Course Teaching/Learning Techniques

1. Lecture/Discussion
2. Projected Media – PowerPoints and Video
3. Hands-on directed labs
4. Internet research
5. Homework assignments
6. Quiz and Test review

Resources

1. Instructors website
2. Selected Internet sites

Computer1 Course Objective and Timetable

Unit 1 - The Computer

1.1 Student orientation to the SJRHS network
1.2 Instruction on the history and development of modern computer
1.3 Explain, examine, and differentiate computer internals and peripherals
1.4 Examine the external ports and explain their function
1.5 The startup process

Objectives:

1. Know how to navigate the school network
2. Understand how computers function
3. Know the major items on the motherboard and how they work
4. Understand the concept of plug and play
5. Know what each port is designed for and how to optimize it use
6. Understand what is the boot process

Unit 2 - The Operating System – Windows

2.1 Explain system software – operating system and utilities
2.2 Examine computer setup and configuration
2.3 Explain common file types
2.4 Document management and backup
2.5 Understand numbering systems

Objectives:

1. Demonstrate the ability to use the computer as an effective tool to access, analyze, organize, and retrieve information quickly and efficiently

2. Demonstrate the ability to create a folder structure.

3. Know how to use various media for backup

4. Differentiate various document types

5. Understand the differences in numbering systems

Unit 3 - Networking / Internet

. 3.1 Define a browser and its characteristics

. 3.2 Explain a Local Area Network – the basis of the Internet

. 3.3 Introduce and compare different browsers and search engines

. 3.4 Introduce the terms URL and IP Address and explain how webpages are stored

. 3.5 Explain and model safe computing – secure protocol - Viruses and Spyware

. 3.6 Demonstrate and use efficient and systematic Internet search techniques.

. 3.7 Provide guidelines for evaluating source material used in research
Objectives:
1. Navigate the network successfully to complete assignments.
2. Understand how information is transmitted across networks
3. Know how software is deployed on networks
4. Understand interconnect and the devices used to extend a network
5. Evaluate web page composition and transmission
6. Recognize the common Protocols and understand when they are used
7. Protect their computers and data from intrusion through directed browsing and maintaining updated anti-intrusion software
8. Research the Internet to produce a formatted research paper
9. Academic dishonesty in all its forms and how to avoid plagiarism

Unit 4 - Microsoft Word
. 4.1 Define word processing and the demonstrate the interface
. 4.2 Review ribbons, examine advanced Options
. 4.3 Set Defaults – fonts, spacing, tabs, indents, margins and orientation
. 4.4 Explain and model how to use the Office Clipboard
. 4.5 Demonstrate how to format documents, flyers, posters and letters investigate templates
. 4.6 Demonstrate the formatting model SJR uses for academic research papers
4.7 Demonstrate how to use tables to organize information and present with greater clarity

Objectives:
1. Understand the principles of word processing and how to manage the ribbons
2. Create a customized workspace through setting defaults
3. Compose quality documents using text and images
4. Design a take-out menu using tables and customize with fonts and illustrations
5. Format an essay using the MLA and APA guidelines.
6. Design basic templates to assist in completing common tasks
7. Create a flyer incorporating tables
8. Create documents with embedded and linked Objects

Unit 5 - Microsoft PowerPoint
5.1 Examine advanced functionality ribbons
5.2 How to create an effective presentation
5.3 Using Transitions - Animations – Rehearse Timings
5.4 Using sounds – incidental and passive – volume control
5.3 How to customize images, crop and resize, using an image editor
5.4 How to use bookmarks for navigation
and implement Object Linking and Embedding (OLE)
Objectives:

1. Understand the interface and how best to achieve a quality presentation
2. Be familiar with the functionality of the application and how best to use it
3. Create a presentation with navigation using bookmarks and use of hidden slides.
4. Create presentations with a variety of sounds and sound effects
5. Master the skill of cropping and resizing for use in presentations
6. Create a comprehensive presentation

Unit 6 - Microsoft Excel

. 6.1 Define spreadsheet technology and demonstrate the interface
. 6.2 Discover data differentiation, using text, numbers and dates
. 6.3 Create series using the Fill Handle
. 6.4 Teach data formatting, basic formulae calculations and relative/absolute referencing
. 6.5 Define functions – using the function Wizard
. 6.6 Construct text, financial, math and logical functions
. 6.7 Labs on how to use and format functions and achieve correct results
. 6.8 Instruction on creating charts from research data – Chart selection and formatting
Objectives:
1. Demonstrate a competency with spreadsheet software and the interface
2. Understand how data is stored and presented
3. Formulate and create series using the fill-handle
4. Construct formulae and functions to solve numeric problems
5. Differentiate function classifications and show a competency with function usage and associated arguments.
6. Verify that the results reported are accurate.
7. Create and design effective charts from research data.