**Computer Science 12 AP**

Course Outline

**About the Course**

The AP Computer Science A course is an introductory course in computer science.

Because the design and implementation of computer programs to solve problems

involve skills that are fundamental to the study of computer science, a large part of the

course is built around the development of computer programs that correctly solve a

given problem. These programs should be understandable, adaptable, and, when

appropriate, reusable. At the same time, the design and implementation of computer

programs is used as a context for introducing other important aspects of computer

science, including the development and analysis of algorithms, the development and

use of fundamental data structures, the study of standard algorithms and typical

applications, and the use of logic and formal methods. In addition, the responsible use

of these systems is an integral part of the course.

**Goals**

The goals of the AP Computer Science A course are comparable to those in the

introductory course for computer science majors offered in college and university

computer science departments. It is not expected, however, that all students in the AP

Computer Science A course will major in computer science at the university level. The

AP Computer Science A course is intended to serve both as an introductory course for

computer science majors and as a course for people who will major in other disciplines

that require significant involvement with technology. Students will learn to

• design and implement solutions to problems by writing, running, and debugging

computer programs.

• use and implement commonly used algorithms and data structures.

• develop and select appropriate algorithms and data structures to solve problems.

• code fluently in an object-oriented paradigm using Java

• read and understand a large program consisting of several classes and interacting

objects. Students should be able to read and understand a description of the

design and development process leading to such a program.

• recognize the ethical and social implications of computer use.

**Assessment**

Short assignments, projects, programming tests during class, and written quizzes will make up a student's term mark. Work habit marks in this course are determined by student attendance, completion of assignments on time, and use of class time.

**Expectations**

Students in this course are reminded that using the school's computers is a privilege and that improper use of the equipment will result in the loss of this privilege. Students are expected to act in accordance with the outlines set out in the Student Agenda.

**Computer Room Hours**

The computer room is usually available to students in the mornings and most days after school. The computer room is closed during lunch.

**Extra Help**

Students are encouraged to ask for extra help at the first sign of trouble.