

Blackhawk School District

CURRICULUM

Course Title: **Computer Science 2**
Course Number: **0533**
Grade Level(s): **9 – 12**
Length of Period: **45 minutes**
Length of Course: **1 semester**
Faculty Author(s): **Cox**
Credits: **.5**
Date: **Spring 2009/Revised May '09**

COURSE DESCRIPTION: This course extends the study of the Java language. Many large programming projects will be assigned involving both applications and applets. The student who completes this course is prepared for AP Computer Science or for a college programming course. Students may also enroll in the University of Pittsburgh's College in High School Program and earn three (3) college credits for Introductory Java Programming.

PA Standard	Description
3.7.10.C	Apply basic computer operations and concepts.
3.7.10.D	Utilize computer software to solve specific problems.
3.7.12.C	Evaluate computer operations and concepts as to their effectiveness to solve specific problems.
3.7.12.D	Evaluate the effectiveness of computer software to solve specific problems.

Class Resources
Blue Pelican Java by Charles E. Book (ebook)
BlueJ Development Environment

Course Topic	Proposed Time	Topic Reflection
Computer Science Review	5 Days	
<ul style="list-style-type: none"> * Variables * Decisions * Loops * Input and Output * Problem Solving 		

Course Topic	Proposed Time	Topic Reflection
Arrays	8 Days	
<ul style="list-style-type: none"> * Data Representation with Arrays * Array Exceptions * Copying Arrays * Array Class * Enhanced For Loop * Introduce Searching Array Data * Problem Solving with Arrays 		

Course Topic	Proposed Time	Topic Reflection
Classes	16 Days	
<ul style="list-style-type: none"> * Designing Classes * Static Methods * Creating Objects * Wrapper Classes * String Tokenizer Class * File Input and Output * Scanner Class * Problem Solving using Classes. 		

Course Topic	Proposed Time	Topic Reflection
Advanced Java Features	18 Days	
<ul style="list-style-type: none"> * Formatting Data * Bitwise Operators * Randomization * String Buffer Class * Problem Solving 		

Course Topic	Proposed Time	Topic Reflection
Computer Science Topics	12 Days	
<ul style="list-style-type: none"> * Boolean Algebra * Selection Operator * Parameter Passing * Two-Dimensional Arrays 		

Course Topic	Proposed Time	Topic Reflection
Advanced CS Topics	16 Days	
<ul style="list-style-type: none"> * Inheritance * Exceptions * Interfaces * Big O Notation * Recursion * Bubble Sort * Selection Sort * Insertion Sort * Quick Sort * Merge Sort 		

Course Topic	Proposed Time	Topic Reflection
Java Graphics	20 Days	
<ul style="list-style-type: none"> * Applets * Using Images * Animation * GUI's * Events 		