

Programming and Systems Management

Instructor: Kym Johnson
E-mail Address: kjohnson.rhs@catoosa.k12.ga.us

Description

The goal of this course is to provide students with an introduction to the principles of programming and to provide a foundation for further study in programming. This course should also help students to use computers effectively in their lives, thus providing a foundation for successfully integrating their own interests and careers with the resources of a technological society.

In this course, high school students can acquire a fundamental understanding of computer programming and the role programming plays. Students will be required to use and develop problem solving skills throughout the course. Finally, students will gain an understanding of object-oriented programming skills along with an introduction to data structures.

Software Used

Dr. Java, Lego MindStorms, Alice, Greenfoot, Visual Basic 8 Express

Books and Sources Used

Gaddis, T. Starting Out with Alice. Pearson Publishing, 2008.

Kolling, M. Introduction to Programming with Greenfoot. Pearson Publishing, 2010.

Pelland, P. Microsoft Visual Basic 2008 Express Edition: Build a Program Now! 2nd Edition. Microsoft Press, 2008.

Class work

All assignments are posted on the Ringgold High School website.

Each student is required to complete daily assignments. If the student is absent, the work must be made up in the computer lab before or after school. The student should make arrangements on the day of return to make up class work. *All assignments will be weighted equally.*

Career Opportunities

- Computer Engineer
- Game Developer
- Programmer
- Software Engineer

FBLA

FBLA is a co-curricular student organization that plays an integral part in the components of the Business & Technology course standards. FBLA activities are incorporated throughout this course and the rest of the Business and Computer Science courses. Students are strongly urged to join FBLA (\$15.00) to benefit from the wealth of opportunities the organization has to offer.

Topics Covered

Unit 1: CAREERS

Students will explore careers in the field of computing

Unit 2: HARDWARE AND SOFTWARE COMPONENTS

Students will demonstrate an understanding of the relationship between hardware and software in program execution.

Unit 3: PROBLEM SOLVING

Students will practice the application of problem-solving strategies to develop and increase logical thinking skills.

Unit 4: PROGRAMMING

Students will use basic programming techniques to design, implement, and solve simple problems using an object-oriented programming language.

Unit 5: DATA STRUCTURES

Students will demonstrate the ability to process one-dimensional arrays, two-dimensional arrays and lists.

UNIT 6: LIMITS OF COMPUTING

Students will determine how programming limits can affect business, and will recognize that there is a time hierarchy in programming.

Other Information

Expectations for Academic Success

- 1) Complete daily classwork assignments
- 2) Participate in discussions and ask questions
- 3) Participate constructively as a team member
- 4) Problem solve and accept challenges
- 5) Challenge yourself to continuously improve

Business Department Cheating Policy: No credit will be given for any assignment where cheating has occurred.

The syllabus may be updated as needed throughout the semester.