

Computer Game Design

John Jay High School

2019-2020

Teacher: Jocelyn Humphries

jocelyn.humphries@wcsdny.org

Course Overview

Computer Game Design is a half-year Business elective. The primary purpose of the course is to familiarize students with the basic elements of computer programming within the context of light-hearted, creative design. Computer Game Design is a good foundation for future study in STEAM courses including: Mobile Application Development, AP Computer Science Principles, AP Computer Science A (Java), and courses in design or engineering offered by the Art and Technology Departments.

Class Procedures

The classroom time includes a combination of lecture, individual assignments, and collaborative project-based learning. Students are expected to treat each other and all of the equipment with respect and may not eat or drink or place food or food packaging anywhere near the computers.

Assignments and grades will be posted to Google Classroom. Google products do not work with personal email accounts; students must log on with an @k12.wcsdny.org account. Students are welcome to subscribe to push updates on their phones, but are also encouraged to block notifications between 10PM and 6AM as I tend to plan and grade late at night. (Consider yourself warned!)

ALL ACCEPTABLE USE AGREEMENTS MUST BE RETURNED TO SCHOOL PROMPTLY SO YOU DON'T GET KICKED OFF THE COMPUTER.

Textbook - There is no assigned textbook for this course.

Topics

This course will use the Scratch programming language developed by Massachusetts Institute of Technology. Scratch is a kid-friendly metaphor for object-oriented programming. Within the construct of building computer games, students will learn the following programming skills:

I. Algorithms & Programming

Events

Functions/Procedures

Variables

Conditionals/Logic

Iteration/Loops

Programming Standards - methodologies for testing and documentation

II. **Game Design Methodology**

(Adapted from: Glued to Games By: Scott Rigby and Richard M. Ryan)

Understanding why people play games
Luck vs. Skill and the importance of random number generation
Game plot, theme, setting, mood, graphics and sounds
Points, Tokens, Tools, Lives and Timers

II. **Graphic Design**

Basic Photoshop tools including layers, selections, and blending options
Raster vs. Path art
File types
Copyright

IV. **Business Procedures**

Agile Design Process
Software Development Life Cycle
Careers in Computer Science

Grading

G.P.A. will be determined based on a running point total. Most assignments will be graded based on a rubric which will include technical specifications, creativity, and effort. Daily class assignments are worth 20 - 25 points. Major assignments are worth 30 - 100 points based on length and complexity. The final project is a 4-week team event where students will be responsible for a specific role on the team. Each student will be graded on the rubric corresponding to his or her role. The final has two parts: a coding activity and a multiple choice exam.

Student Name (PRINT): _____

Student Signature: _____

Date: _____

Parent Signature: _____

Date: _____

Office Use Only

Syllabus Checked in Date: _____

Acceptable Use Check in Date: _____

Syllabus Checked in by: _____