

# Game Design Overview

Content Area: **Computer Science & Business**  
Course(s): **GAME DESIGN**  
Time Period:  
Length: **45 Days**  
Status: **Published**

## Cover

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### EAST BRUNSWICK PUBLIC SCHOOLS

East Brunswick New Jersey

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Course Adoption: 12/17/2015

Curriculum Adoption: 12/17/2015

Date of Last Revision Adoption: 9/1/2017

## Course Overview

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## COURSE DESCRIPTION

This course will provide a practical introduction to game design and game design concepts, emphasizing the basic tools of game design: paper and digital prototyping, design iteration, and user testing. This course will allow students to spend the quarter learning how to create basic video game or game content. Students who have an interest in video game design but do not know where to begin should consider taking this course. At the most basic level, students may use 2D game creation software such as Game Maker to look into the mechanics of gaming and the code behind it. There is also the opportunity to explore further and collaborate in groups to create a more advanced game using game engine and animation software.

## CONTENT FOCUS AREA, COURSE NAME AND CHARACTERISTICS

### Game Design

Projected Number of Students	School #'s	Course Level	Course Length	Grade Level	Credits	Minutes Per Week	Elective/ Required	Initial Course Adopted
120	050	10-12	Q	10-12	1.25	210	E	1991

## Textbooks and Other Resources

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## Standards

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TECH.8.2.12.C.1	Explain how open source technologies follow the design process.
TECH.8.2.12.C.2	Analyze a product and how it has changed or might change over time to meet human needs and wants.
TECH.8.2.12.C.3	Analyze a product or system for factors such as safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, and human factors engineering (ergonomics).
TECH.8.2.12.C.4	Explain and identify interdependent systems and their functions.
TECH.8.2.12.C.5	Create scaled engineering drawings of products both manually and digitally with materials and measurements labeled.
TECH.8.2.12.C.6	Research an existing product, reverse engineer and redesign it to improve form and function.
TECH.8.2.12.C.7	Use a design process to devise a technological product or system that addresses a global problem, provide research, identify trade-offs and constraints, and document the process through drawings that include data and materials.
TECH.8.2.12.C.CS1	The attributes of design.
TECH.8.2.12.C.CS2	The application of engineering design.

TECH.8.2.12.C.CS3	The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.
TECH.8.2.12.E.1	Demonstrate an understanding of the problem-solving capacity of computers in our world.
TECH.8.2.12.E.2	Analyze the relationships between internal and external computer components.
TECH.8.2.12.E.3	Use a programming language to solve problems or accomplish a task (e.g., robotic functions, website designs, applications, and games).
TECH.8.2.12.E.4	Use appropriate terms in conversation (e.g., troubleshooting, peripherals, diagnostic software, GUI, abstraction, variables, data types and conditional statements).
TECH.8.2.12.E.CS1	Computational thinking and computer programming as tools used in design and engineering.

## **Grading and Evaluation Guidelines**

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### **Other Details**

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#### **Computer Programming - Other Language**

Computer Programming - Other Language courses provide students with the opportunity to gain expertise in computer programs using languages other than those specified (such as Pascal, FORTRAN, or emerging languages). As with other computer programming courses, the emphasis is on how to structure and document computer programs, using problem-solving techniques. As students advance, they learn to capitalize on the features and strengths of the language being used.