

Math Game Design

Syllabus

Total Completion Time: Approximately 15 Hours

Objectives: *Students will be able to...*

- Define the four elements of game design: mechanics, story, aesthetics, and technology
- Design a math game prototype
- Develop a design document that explains the game elements
- Playtest, iterate, and present a final version of a game

Materials: Students should also have access to game making supplies such as scissors, poster board, markers, colored pencils, white glue, rulers, straws, colored construction paper, masking tape, playing pieces, and dice. You will also need one deck of cards for every two students.

Modules	Activities	Est. Time
Module 1: What is a Game? The card game <i>War</i> is a simple game ... or is it? What makes the game of <i>War</i> fun? Just what is a game?	Prepare to Design <ul style="list-style-type: none">● Define the game design process● Analyze games and the game experience	3 hours
Module 2: Creating a Prototype Games start with an idea! Game design starts with a design team. Take your ideas for a math game, join a design team, and dive into game mechanics.	Gain Knowledge <ul style="list-style-type: none">● Compare and contrast game mechanics● Balance game mechanics● Move from idea to prototype	4 hours
Module 3: Designing Interest All games have a story. What story will your game tell? What type of art will you use? Write your design document and your game is set for play.	Apply <ul style="list-style-type: none">● Analyze stories in games● Write a design document● Prepare for playtesting	3 hours
Module 4: Playtesting Take your game on the road! Others will play your game and tell you if it is working just right. You'll soon have your game ready for <i>prime time</i> !	Analyze <ul style="list-style-type: none">● Prepare a playtest questionnaire● Embrace iteration● Analyze the play experience	3 hours
Module 5: Presenting Your Game You are now a game designer! Your game is playable and looks great. It's time for your game to get some <i>red carpet</i> treatment!	Present <ul style="list-style-type: none">● Present the game● Reflect on the game design process	2 hours