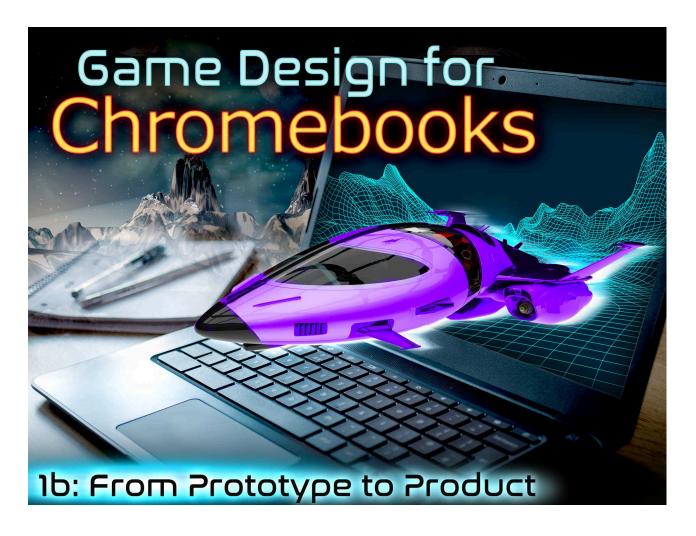# 📖 Course **Syllabus**

What you will learn in this course

Game Design for Chromebooks 1b: From Prototype to Product

Get ready to add some super charged rocket fuel to your galactic adventure game prototype because it's time for it to blast into the stratosphere as a full-blown product! In this course, you'll build on your prototype focusing on techniques to add difficulty but also increase the fun. "Fun" may sound like an elusive quality to achieve, but understanding your audience's needs and potential immersive elements as well as the alignment and flow of your game progression will put you well on the way to creating a hit! Get ready to launch your game for all to see and collect the interstellar acclaim that follows!

Unit 1: Building Our World

In this course, we'll go over more of the advanced techniques used to optimize, program, and write amazing games. It's not enough to put together a playable prototype if the game concept and mechanics aren't thought out. We'll discuss the interactions between a game's mechanics,

dynamics, and aesthetics and how they're viewed from the perspective of a player as well as from a developer. We'll also consider the impacts of gaming on society from the perspective of business and finance, as well as from the perspective of a personal player. Finally, we'll discuss how alignment, flow, themes, and emotion tie into creating complex and compelling games. Let's get started!

What will you learn in this unit?

1. Discuss the impacts of gaming on society in relation to business, finance, and public health
2. Understand the correlation of mechanics, dynamics, and aesthetics, as well as the order of reference for players compared to developers
3. Create and mold themes to affect a player's emotion and overall mood
4. Design game projects with consideration for alignment and flow

UNIT 1 Assignments

Assignment	Type
Unit 1 Critical Thinking Questions	Homework
Unit 1 Activity 1	Homework
Unit 1 Activity 2	Homework
Unit 1 Activity 3	Homework
Unit 1 Discussion 1	Discussion
Unit 1 Discussion 2	Discussion
Unit 1 Quiz	Quiz

Unit 2: A Deeper Dive into Character Design

There is more to game characters than just the standard damsel in distress, action hero, and evil villain tropes. Characters in games will likely interact with the player quite a bit, and therefore should be engaging and interesting to ensure the player stays immersed in the storyline. Learn how to make characters in games more aligned to the game's mood and gameplay. Consider giving your villains a hint of likability! Finally, we'll go over the various types of animations used in PlayCanvas and set up an animation state graph to control animations and flow using scripting!

What will you learn in this unit?

1. Identify ways to further develop characters to make them more relatable and interesting to the player

2. Design and program different types of animations in PlayCanvas using JavaScript and animation state graphs

3. Describe alternative animation types and how to use tweens on objects and textures

4. Design and align character aesthetics based on mood, story, and gameplay

5. Define the types of fun along with the types of people who play games

UNIT 2 Assignments	
Assignment	**Type**
Unit 2 Critical Thinking Questions	Homework
Unit 2 Activity 1	Homework
Unit 2 Activity 2	Homework
Unit 2 Discussion 1	Discussion
Unit 2 Discussion 2	Discussion
Unit 2 Quiz	Quiz

Unit 3: Immersive Game Design

One of the main goals in game design is to create an experience that will make the player forget that they're holding a game controller and instead be fully immersed in the story or experience. Immersion can be achieved in many ways, and each adds layers to the overall experience. We're going to look at the various ways we can achieve player immersion through gameplay, audio, visuals, and even in the physical hardware of the game system itself. We'll then discuss post-processing, a technology/design aspect that allows us to apply effects to an entire scene, such as vignettes and cell shading, that can add a cinematic or even a hand-drawn aesthetic to your games.

What will you learn in this unit?

1. Describe game feel and flow in relation to progression and immersion

2. Use graphics, audio, and gameplay mechanics to increase immersion and communicate

information to the player

3. Define the principles of design

4. Explain how gameplay subsystems help to organize and shape how we develop our games

5. Implement scripted post-processing effects and identify usage cases for common effects

UNIT 3 Assignments	
Assignment	**Type**
Unit 3 Critical Thinking Questions	Homework
Unit 3 Activity 1	Homework
Unit 3 Activity 2	Homework
Unit 3 Activity 3	Homework
Unit 3 Quiz	Quiz
Unit 3 Discussion 1	Discussion
Unit 3 Discussion 2	Discussion

Unit 4: Create Your Own Assets

So far, we've created some unique and interesting environments with the assets we downloaded from other creators, but to really make our game stand out, we'll eventually want to create our own. Let's use industry-standard 3D-modeling software to create and export our own 3D models for our in-game health packs, shields, and power-ups. We'll also create dialog boxes for story and plotlines. Ready to put your unique touch on your game?

What will you learn in this unit?

1. Create 3D objects for use in game design projects using 3D CAD software

2. Describe the roles of software within development stacks and workflows

3. Design dialog boxes for interactive storyline sequences

4. Consider how to add immersive qualities to interactive storyline sequences

5. Explain the use of symbols and colors in gaming

UNIT 4 Assignments

Assignment	Type
Unit 4 Critical Thinking Questions	Homework
Unit 4 Activity 1	Homework
Unit 4 Activity 2	Homework
Unit 4 Discussion 1	Discussion
Unit 4 Discussion 2	Discussion
Unit 4 Quiz	Quiz

Game Design for Chromebooks 1b Midterm Exam

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from the **first** half of the course (Note: You will be able to open this exam only one time.)

MIDTERM Assignments

Assignment	Type
Midterm Exam	Exam
Midterm Discussion	Discussion

Unit 5: Level Structure and Design

Let's discuss the importance of structure and design in game productions. Using what we've learned about the types of players who will be experiencing our games, we can determine what will specifically contribute to a fun and interesting game experience. Then we'll implement some of these changes to our game project. Understanding how to maintain engagement through gameplay can mean the difference between a good game and a great game. Finally, we'll start the testing phase of our game prototype to start turning it into a real, functioning game product.

What will you learn in this unit?

1. Describe and implement best practices used in level design

2. Document your level design proficiently

3. Identify player types and the basics of social demographics

4. Explain techniques used to maintain player engagement within a game project

5. Test and adjust difficulty based on real-world alpha testing

UNIT 5 Assignments

Assignment	Type
Unit 5 Critical Thinking Questions	Homework
Unit 5 Activity 1	Homework
Unit 5 Activity 2	Homework
Unit 5 Activity 3	Homework
Unit 5 Discussion 1	Discussion
Unit 5 Discussion 2	Discussion
Unit 5 Quiz	Quiz

Unit 6: Building an Audience

Let's move beyond the initial development of our game to look at how to start building an audience of players to experience it. We'll discuss various forms of marketing for different budgets and how to manage a social fanbase once you have one. We'll then connect all the dots, discuss how to weave these topics into our game projects, and build a marketing plan to map out ideas for social engagement and growth.

What will you learn in this unit?

1. Discuss types of marketing employed by independent developers and large game studios

2. Understand the different types of funding sources that may be available to you

3. Learn how to manage a fanbase and the importance of trust and engagement

4. Build a marketing plan across multiple social platforms to help market your game

UNIT 6 Assignments

Assignment	Type
Unit 6 Critical Thinking Questions	Homework
Unit 6 Activity 1	Homework
Unit 6 Activity 2	Homework
Unit 6 Activity 3	Homework
Unit 6 Discussion 1	Discussion
Unit 6 Discussion 2	Discussion
Unit 6 Quiz	Quiz

Unit 7: Testing and QA

We've already received feedback on our game, so now it's time to put that feedback to good use! Your game will need to be polished to ensure positive reviews, as even the best game can be made unplayable or unenjoyable by game-breaking bugs. We'll discuss common bugs and the techniques used by software developers to catch, monitor, and document bugs during testing. Once we've squashed all the bugs we can, we'll go over the types of platforms we can publish to and then publish our own game project online!

What will you learn in this unit?

1. Identify testing techniques and implement a debugging script to visualize live game data
2. Describe types of bugs found in common game software and explain their effects on gameplay
3. Iterate on your game, based on testing feedback
4. Explain the compatibility concerns related to releasing a game on different platforms
5. Publish your game and consider future updates to keep players interested

UNIT 7 Assignments	
Assignment	Type
Unit 7 Critical Thinking Questions	Homework
Unit 7 Activity 1	Homework
Unit 7 Activity 2	Homework

Unit 7 Discussion 1	Discussion
Unit 7 Discussion 2	Discussion
Unit 7 Quiz	Quiz

Unit 8: What's Next?

What do we do now that we've gone gold? Let's look at how game development shifts its focus to working with publishers, marketing and selling units, and even iterating on a game's features to keep the game interesting and relevant to new and returning gamers. At the end of big projects like this, teams usually reflect and document what went well and what they might change the next time around. On a personal level, documenting what you've achieved in an online portfolio will help you create a resume of your skills, knowledge, and the content you've produced so far. From there, we can make a plan for your next project!

What will you learn in this unit?

1. Track how a game turns into a business entity, and how to monetize the product and your business long-term
2. Describe the effects of group dynamics and working with internal and external teams
3. Design an online portfolio to showcase your work and abilities
4. Plan the next steps in your game design journey, create a game post-mortem blog, and understand the emergence of game companies as a genre

UNIT 8 Assignments

Assignment	Type
Unit 8 Critical Thinking Questions	Homework
Unit 8 Activity 1	Homework
Unit 8 Activity 2	Homework
Unit 8 Activity 3	Homework
Unit 8 Discussion 1	Discussion
Unit 8 Discussion 2	Discussion
Unit 8 Quiz	Quiz

Game Design for Chromebooks 1b Final Exam

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from the **second** half of the course (Note: You will be able to open this exam only one time.)

FINAL Assignments	
Assignment	**Type**
Final Exam	Exam
Final Exam Discussion	Discussion