

# Game Design

## Syllabus

**Author:** Chris Klug, faculty at Carnegie Mellon University’s Entertainment Technology Center

**Overview:** “Gaming” doesn’t only mean “video games”. Gamers also play board games, card games, simulations, and participate in interactive stories. This course breaks down the design process step by step. Students learn the fundamentals of game mechanics, game art, and game narratives. Their final project includes building, playtesting, and continually improving a team built board game that can be played with friends and added to their game portfolio.

**Learning Outcomes:** *Students will demonstrate proficiency with...*

- identifying the fundamental skills and techniques of game design
- applying the fundamental skills and techniques of game design in the construction of a game prototype;
- refining a game prototype through a productive cycle of play testing;
- participating in the iterative process in a mutually respectful collaborative environment;
- executing a well-planned presentation that includes an analysis of the final product and game design process;
- exploring college and career opportunities in game design.

**Length of Course:** Between 80 and 120 hours of coursework

**Assessments Include:** Rubrics designed for Authentic Assessment of Project Based Learning Activities

**Suggested Reading:** *A Theory of Fun for Game Design, by Raph Koster*

**Materials and Supplies:** Students will create pieces, boards, cards and prototypes of their games to play with their friends, family, and in class. Students will need access to foam-core, scissors, markers, tape, and other basic art supplies. Learning to create paper prototypes is essential for any serious game designer.

Modules	Lessons	Assignments
1 <b>Define a Game</b>	1 What is a Game? 2 Game Genres 3 Designing Board Games	● Fun to Play ● Re-Design a Children’s Game ● I am a Game Designer
2 <b>The Process of Game Design</b>	4 Game Mechanics 5 Brainstorming 6 Game Production Processes 7 Prototype – Playtest Cycle 8 What is Play?	● The Spine ● Brainstorm Setting ● The Game Design Cycle
3 <b>The Game Prototype</b>	9 The Design Team 10 Documentation 11 Build Your Game Prototype	● Design Document Activity

<b>4 Game Designer's Tools</b>	<b>12</b> Games and Simulations <b>13</b> Games and Simulated Reality <b>14</b> Psychology of Game-Play <b>15</b> Flow	<ul style="list-style-type: none"> <li>● The Nature of Reality</li> </ul>
<b>5 Game Complexities</b>	<b>16</b> Skill <b>17</b> Chance and Probability <b>18</b> Expected Value <b>19</b> Methods of Game Balance	<ul style="list-style-type: none"> <li>● Perfect Imbalance</li> <li>● Module 5 Playtest</li> </ul>
<b>6 Games and Story</b>	<b>20</b> Stories in Games <b>21</b> Hero's Journey <b>22</b> Creating Game Characters <b>23</b> Types of Game Characters	<ul style="list-style-type: none"> <li>● Change and Conflict</li> <li>● Retell a Game Story</li> <li>● Go on a Hero's Journey</li> <li>● Analyze a Game Character</li> </ul>
<b>7 Game Worlds</b>	<b>24</b> Transmedia Worlds <b>25</b> Evolution of a Transmedia World	<ul style="list-style-type: none"> <li>● Design an RPG Adventure</li> </ul>
<b>8 Special Types of Games</b>	<b>26</b> Puzzles <b>27</b> RPGs in Depth <b>28</b> A Sample RPG System	<ul style="list-style-type: none"> <li>● Puzzles</li> </ul>
<b>9 The Player's Mind</b>	<b>29</b> Board Games in the Mind <b>30</b> Role Playing Designs <b>31</b> Video Games in the Mind <b>32</b> How the Player's Mind Works	<ul style="list-style-type: none"> <li>● Thinking about Board Games</li> <li>● Thinking about Video Games</li> </ul>
<b>10 Reflecting on the Game Design Process</b>	<b>33</b> The Spark! – An Idea <b>34</b> From Idea to Prototype	<ul style="list-style-type: none"> <li>● Pitch the Game Idea</li> <li>● Brainstorm an Original Idea</li> </ul>
<b>11 Multiplayer Games</b>	<b>35</b> Games as Social Activity <b>36</b> Communities in MMOS <b>37</b> Designing a Revenue Stream	<ul style="list-style-type: none"> <li>● MMOs</li> </ul>
<b>12 Delivering Your Original Game</b>	<b>38</b> Test Your Game <b>39</b> Prep for Your Presentation <b>40</b> Final Presentations	<ul style="list-style-type: none"> <li>● Final Presentations</li> </ul>
<b>Final Exam – Multiple Choice</b> <b>Final Exam – Essay</b>		