

EXPLORE GAME DEVELOPMENT & DESIGN

WHAT IS GAMING DEVELOPMENT & DESIGN?

Game Development and Design are two careers that work together to drive one industry: video game development. Both positions use software language and design to create visual and interactive art. Designers tend to focus on aesthetic design using technical solutions; Developers are concerned with the technical construction. Game Development and Design careers may also be found whenever a 3D-rendered or interactive technology solution is required.

HIRING TIMELINE & TIPS

Because of the competitive nature of this field, gaming and modeling hiring do not follow normal timelines. Those interested in this field may need to work outside the industry and then apply for game development jobs after gaining a few years of experience. **Networking is critical** -- reach out to industry professionals to discuss your skills, tactics for becoming more qualified, and for help breaking into companies. **Demonstrating your experience** through personal projects is CRUCIAL. To break into a competitive field, you must pursue it outside of your daily duties. Research the industry, make demos and small games.

SOFTWARE SKILLS

- Programming and Scripting Languages (C++, C#, Java, Python, Lua)
- 3D Visual Effects Software (Unity, UE4, Blender, Maya, Max, ZBrush, Modo)
- 3D rendering tools and skills
- Mobile platform development (iOS, Android)
- Proficiency with gameplay design principles and industry trends
- Experience with DirectX pipeline and modern 3D rendering techniques such as shaders, lighting models, and HLSL.

KEY SKILLS

- Technical writing skills
- Asset design and creation tools in 3D and 2D (3DS Max, Maya Photoshop, Substance)
- Fundamental understanding of game industry design standards, trends, and capabilities of technology
- Basic scripting and programming ability, to create proof of concept
- Artistic/aesthetic skills, including drawing/2D art, audio design/musical principles, practical knowledge of graphic design

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BACKGROUND QUALIFICATIONS

- Strong communication and team development skills
- Familiarity with level design, UI design, game level design, basic principles of physics and fluid dynamics (for quality rendering skills)
- A portfolio of work is strongly encouraged, if not required for these roles -- select entries to show your breadth and depth of experience. Suggestions include:
 - Illustrations of characters and environments to show your creative skills
 - Mini mobile games
 - A short animation or proof-of-concept for a new gaming concept
 - Story design, especially for designers
 - Web-based games that will show your programming talent

RELATED L&S COURSES

- CS 540 - Intro to Artificial Intelligence
- CURRIC 357/432 - Game Design I/II
- ART 107 - Intro to Digital Forms
- ART 429 - 3D Digital Studio I (ART 107 prereq)

FREQUENT EMPLOYERS

- Activision/Blizzard Entertainment
- 2K Games
- Nintendo
- Twitch

LEARN MORE

- BuiltIn - [How to Become A Game Developer](#)
- GameDesigning.org - [Video Game Developers](#)

RELATED STUDENT ORGS

- [Game Design & Development Student Org](#) at UW-Madison

GAME DEV. TITLES

- Gameplay Programmer
- Software Developer
- Technical Director
- Mobile Services Engineer

GAME DESIGN TITLES

- Environment Artist
- Level Designer
- Narrative Designer
- Producer