The specific career path in computer science that I am choosing is Game developer. To begin with, game developers create and design video games typically in a large team or sometimes alone. Game developers work in many areas such as programming, art, and testing. This field takes creativity and passion for gaming. Some key responsibilities are: graphics and animations, sound design, testing and debugging, and collaboration. Some daily tasks include: coding, prototyping, and documenting your work.

For the educational requirement, game developer jobs typically require at least a bachelor's degree and, depending on the job, some years of experience. A bachelor’s degree is necessary because game development requires lots of programming and technical skills, and a bachelor's degree equips upcoming developers with the necessary coding knowledge, software development techniques, and problem-solving abilities to do their job properly. It is also an industry standard many studios prefer people with a formal education because it tells them they’ve learned industry standard practices. Further more, Bachelor’s programs often include coursework in game design, interactive storytelling, and digital art, ensuring developers have a well-rounded skill set after they get their bachelor’s degree.

Some computer science courses that I would need to take are operating systems, data structures and Algorithms, and software engineering. Now onto the more game developer focused classes, the classes I would have to take are: computer graphics, artificial intelligence, and game programming. There may be some general classes in between these, but this is a general overview of the classes I would have to take.

For the essential skills for game developers, there are many, but these are one of the most important ones.

* Programming Languages
* Game Engines and Software Tools
* Mathematics and Physics
* Artificial Intelligence
* Game Design and Storytelling

Starting with programming languages, to be a game developer you need to know a lot of languages some of these include C++, C#, python, and javascript. Being able to write code in many different languages allows you to be flexible since the code will be used to functionally run the game, implement game mechanics, calculations, and user input. Then, game engine and software skills include the likes of unity, unreal engine, blender, and Git. These skills are essential for building and managing every aspect of a game. Next, Mathematics and physics are needed for building realistic game settings, character movements, and physics interactions, ensuring immersive gameplay. Second to last, Artificial Intelligence skills can be pathfinding, decision trees, and NPCs used to make the game be “self sufficient”. Finally, game design and storytelling makes the entire game what it is. Without a story to follow there would be no reason to be making a game and people wouldn’t enjoy it as much.

Industry-recognized certifications that are important to game developers are:

* Unity Certified Developer
* Unreal Engine Certification
* Certified C++ Programmer
* Game AI Certification
* Autodesk Certified User for Maya or 3ds Max

Unity is one of the most widely used game engines in the industry, so it is a really good certificate to have in your name. Unreal Engine certificates show you are able to work with high end engines, which AAA games are made with. C++ certificate shows you can work on large scale projects, and c++ focuses on optimization and memory management. AI certificates shows your proficiencies in creating an intelligent game environment. Autodesk certifications are more 3d modeling and lets you design your characters, environments, and lets you create your own animations.

The average salary for game developers can vary, but entry-level game developers typically earn around $48,750 to $63,913 per year. Mid-level developers, with around 4-9 years of experience, can earn an average salary of $77,590​. Experienced game developers, those with around 10+ years of experience, can earn an average $98,730, with some possibly even reaching $122,000. The national average is $81,390, but, again, it can all vary based on location and personal skill level.

Game developing jobs can be quite competitive. There doesn’t seem to be many entry level jobs, but recently there has been significant growth in areas like mobile gaming, augmented reality, and virtual reality, as we have talked about in class. The job outlook for the next 5-10 years suggests continued growth, particularly in AR/VR, as stated before, mobile, and cloud-based gaming. However, it seems traditional console and PC gaming roles are consolidating among large studios​, which may make jobs harder to find. Some of the highest places in search for game developers are California, Washington, and New york. I currently don’t plan on moving elsewhere, but if it comes down to it these places are high on the list.

Beginning as a game developer, you can start as a junior game developer/programmer, tester, junior technical artist, or associate level designer. All of these roles serve a different purpose and you should do what you specifically want to work on. From here, after you have gained enough experience you can move onto to a game developer/programmer, level designer, technical artist, or a systems designer. All these are just a continuation of what you started at during your entry level job. The final stage, role, you can get as a game developer is your department, are lead game developer, senior game designer, senior technical artist, and project manager/producer. These last roles typically take up to 10 years of experience, so if you plan on being a game developer for long you will get rewarded for it.

A master’s degree is not really necessary for game developers and a bachelor’s degree is generally good enough for most game development roles. The more important thing to focus on is the certificates previously listed. These certificates, if obtained, show that you have a lot of experience, so they are generally more important than if you were to get a masters degree. This is also one of the reasons I choose game development because I had heard in the past that a bachelor’s degree was good enough to get a decent job, and this looks to be true.

I mentioned it briefly in the last paragraph, but one of the major reasons I chose game development was because it earned good money without having to get a masters degree. Starting in the second semester of my sophomore year in highschool, I got introduced to coding by my friend and ever since then I have found coding to be fun and have wanted it to be my career path. Added with the fact that I like to play games, I was naturally drawn to go down the path of a game developer.

All of this information that I have gathered here will help me pick my classes, and it will help me know which skills to have and train. Some steps that I can take right now to help further my goal, would be to make sure that I am taking the proper classes and not taking any useless ones. I don’t know the name of it, but I have heard of an associate in UTRGV that deals with games/game development, so if I want to I can go there and ask others for advice and see what they have to offer. All in all, I feel like game development calls for me.

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