

# Bachelor of Software Engineering

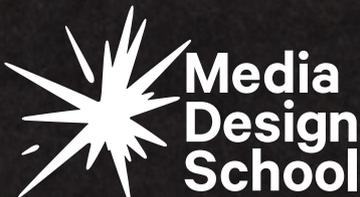
GAME PROGRAMMING

## CAREER OPPORTUNITIES

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- **Game Programmer**
- **Software Engineer**
- **Graphics Programmer**
- **Engine Programmer**
- **Artificial Intelligence Programmer**
- **Technical Lead**

You will find our Alumni at: **Activision Blizzard, Splash Damage, Hi Rez Studio, Playside, Grinding Gear, PIKPOK, Sledge Hammer, Torn Banner** and many more...





## GAME PROGRAMMING

Manipulate physics and make a new reality, or break it. Crack the code for platforms like Sony PlayStation and Apple iOS, and take the driver's seat in game engines such as Unity and Unreal, to collaborate with artists to make their beautiful worlds come to life. Our Game Programming degree will enable you to seamlessly enter the industry by developing your skills in a studio-like environment. While the artists sit around making pretty pictures, you can set the foundations, and push your game to its full potential. It's not always about how things look anyway, it's about how it plays – I mean, remember Cyberpunk 2077 anyone?

### WHY CHOOSE A DEGREE IN GAME DEVELOPMENT?

We're the only school in New Zealand to have partnered with Sony PlayStation's First Academic Development Programme, so I guess you could call us a PlayStation exclusive (sorry Xbox fanboys and PCMasterRace). On top of that we're currently Unity Technology's first and only Training and Certification Partner in New Zealand. You can also take a bit out of Apple's iOS Developer University Program.

Our style of teaching will not only give you the knowledge of the tools, but will also give you the kit to work in a team, an essential but overlooked component of the gaming industry. Hone your abilities in interviewing, presenting, and communicating before you begin crafting a masterpiece within a small team that you can take to the world. Be amongst the most sought-after graduates for the New Zealand gaming market, forging networks with the likes of Rocketwerkz, Pik-Pok and Outerdown. You'll be able to flex on the world in no time and yell, "Hey, get a load of these Pythons!" (C++ what I did there? Too much? My bad.)

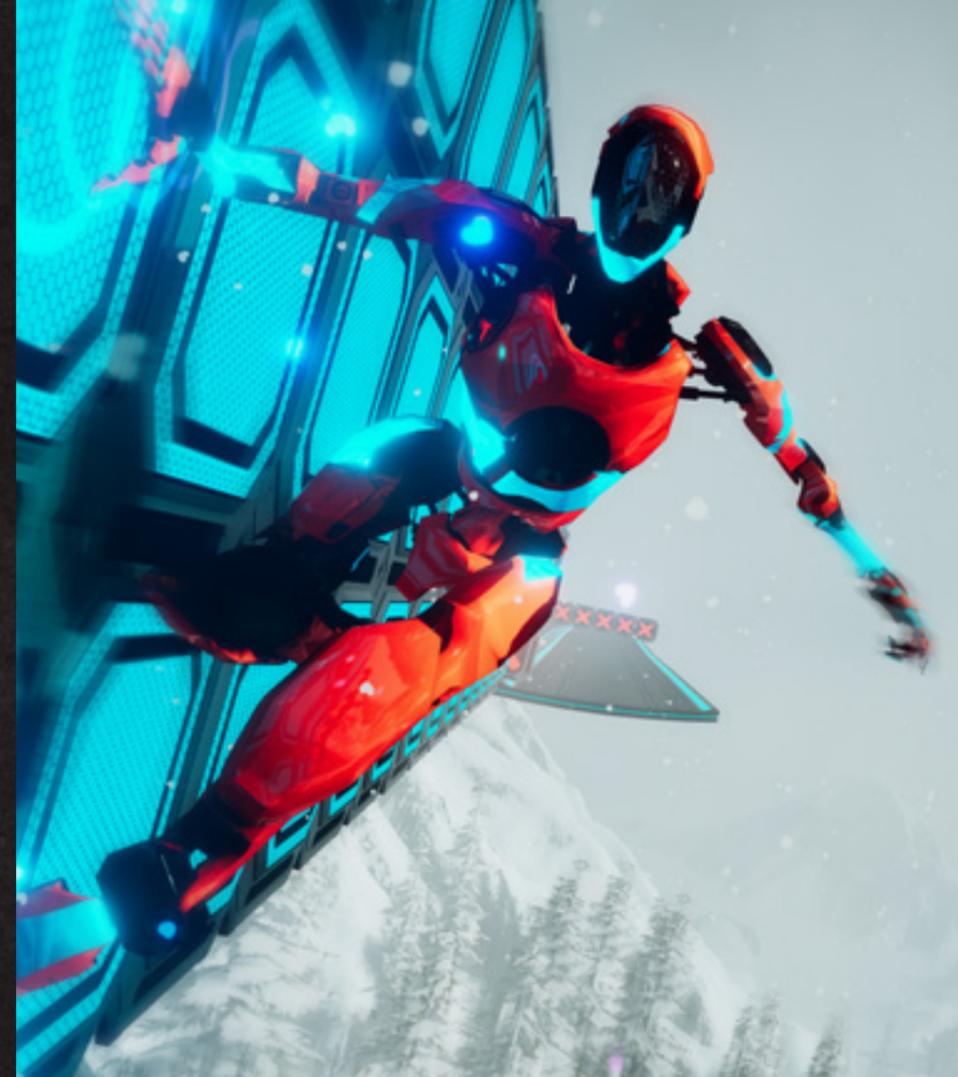
### SOFTWARE/LANGUAGES YOU'LL LEARN:

- C/C++
- OpenGL (API)
- Lua
- Game Maker
- Microsoft Visual Studio
- Unreal
- Unity

### INDUSTRY PARTNERS:



MDS is the only school in New Zealand where students can develop games for the PlayStation platform and for iOS devices.



### SRC: Sprint Robot Championship

**RageQuit Studios: Scott Thomson, Tyrone Mills, Gabriel Magadza, and Cameron Chung**

SRC: Sprint Robot Championship is a first-person sprint racing game where players achieve the fastest times possible on a wide range of challenging tracks. The game was accepted on to the MDS Studios games incubator programme.

"Media Design School provided us with the tools and knowledge we needed to succeed in the video game industry. We were given practical advice throughout the course which allowed us to create fun and immersive games. The experience gained from working on our third-year project allowed us to stand out as game developers and be accepted into the MDS Studios accelerator programme where we had the opportunity to release our first game production to a commercial audience," says SRC: Sprint Robot Championship game artist Cameron Chung of the opportunity to further develop the team's newest title.

"It was rewarding for us to see that the early work we put into the core gameplay had paid off. Our advice for any students is to work hard, get as much feedback as you can, and have fun."

The game was released in Early Access on Steam.

## FIRST YEAR COMPONENTS

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### Introduction to Software Engineering for Games

Begin with an introduction to the C++ programming language and the opportunity to construct simple games.

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### Fundamental Mathematical and Engineering Principles

This component begins with basic mathematics before progressing to the core mathematical skills required for solving games problems.

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### Algorithms and Data Structures

This component teaches the fundamental data structures and algorithms that are needed to solve common gaming problems.

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### Introduction to Games Mechanics

By playing, analysing, reading, discussing and writing about games, students will examine how games function from a technical perspective.

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### Mathematics for Graphical Games

Students learn to construct mathematical solutions to common gaming problems. They design, develop, test, and enhance a game that requires a significant degree of mathematics.

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### Software Engineering Principles and Practices

This component focuses on the skills required to produce a game both on time and on budget.

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### 2D Game Programming

More advanced programming concepts are introduced, including a basic introduction to user-interface design and software engineering management methods.

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### Game Design Principles

Learn principles of game design, including rules, progression and balance by collaborating in teams to ideate and create both physical and digital games.

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To find out more about the second and third year course structure of the Bachelor of Software Engineering, and for up-to-date and comprehensive course information, including dates and fees, visit [mediadesignschool.com](http://mediadesignschool.com).

