Media Design School

Bachelor of Software Engineering

GAME PROGRAMMING

Study a Bachelor of Software Engineering (Game Programming) and become a highly sought-after programmer who can breathe life into unimagined worlds. You'll work across a range of platforms, including Sony PlayStation and Apple iOS, using Unity or Unreal game engines, and collaborate with artists to create beautiful worlds that behave in their own laws of physics and have artificially intelligent creatures.

WHY CHOOSE A DEGREE IN GAME DEVELOPMENT?

Media Design School was the first school in New Zealand to provide specialised gaming degrees for aspirational game developers. We're the only school in New Zealand to have partnered with Sony PlayStation's First Academic Development Programme, and we're currently Unity Technology's first and only Training and Certification Partner in New Zealand. We're also part of Apple's iOS Developer University Program, meaning all game development students have the opportunity to develop on Sony PlayStation 4, Apple iPhone/iPad, and graduate as Unity Certified Developers.

unity

PlayStation First

UNREAL ENGINE

iOS Developer University Program

mediadesignschool.com

Game Programming

Bachelor of Software Engineering
NZQF: Level 7 (420 credits), 1.2 EFTS a year
Duration: Three academic years, full time

Learn a range of programming languages from C++ to Swift, enabling you to succeed in the games industry or the wider technology sector.

You'll be equipped with software engineering principles learnt through game development and in your third year, you'll collaborate with fellow programmers and artists in order to create a commercially viable game; the closest experience you'll get to an industry environment at any tertiary provider in New Zealand.

FIRST YEAR COMPONENTS

- **Introduction to Software Engineering for Games:** Begin with an introduction to the C++ programming language and the opportunity to construct simple games.
- **Fundamental Mathematical and Engineering Principles:** This component begins with basic mathematics before progressing to the core mathematical skills required for solving games problems.
- **Algorithms and Data Structures:** This component teaches the fundamental data structures and algorithms that are needed to solve common gaming problems
- **Introduction to Games Mechanics:** By playing, analysing, reading, discussing and writing about games, students will examine how games function from a technical perspective.
- **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.

- **Software Engineering Principles and Practices:** This component focuses on the skills required to produce a game both on time and on budget.
- **2D Game Programming:** More advanced programming concepts are introduced including a basic introduction to user-interface design and software engineering management methods.
- **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.

To find out more about the second and third year course structure of the Bachelor of Software Engineering, visit **mediadesignschool. com/game-programming**

Please visit mediadesignschool.com for up-to-date and comprehensive course information, entry criteria, intake dates and fees.

CAREER OPPORTUNITIES

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

INDUSTRY INSIGHTS

Globally, the games industry is bigger than the music industry and box office put together, and its influence in New Zealand is rapidly expanding. The NZ Game Developers Association's 2018 report showed a 43% growth in the industry in just one year, with a 10% increase in full time jobs*. A number of prominent studios have cited skill shortages as their biggest barriers to growth, with game programmers and artists being the hardest roles to recruit. This course is designed to respond to those industry-wide shortages, so you're sure to be in demand when you graduate.

*nzgda.com/survey2018/