VICTORIA UNIVERSITY OF WELLINGTON • NEW ZEALAND

POSTGRADUATE STUDY IN COMPUTER GRAPHICS

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA UNIVERSITY OF WELLINGTON

Craig Anslow, PhD student, with the multi-touch table he created

A new Masters in Computer Graphics to give you the competitive edge

VICTORIA UNIVERSITY OF WELLINGTON has developed a new postgraduate programme in Computer Graphics, which can be completed within a Master of Science (MSc) or a Master of Design Innovation (MDI) degree. This programme is unique in Australasia, with a cross-disciplinary nature, combining both Computation and Design, to provide cutting-edge computer graphics skills.

The Computer Graphics programme was developed in collaboration with Weta Digital (visual effects for Lord of the Rings, Avatar), Sidhe (game developer for Xbox, PS3, and mobile platforms), and Unlimited Realities (advanced interaction design). This relationship with Wellington's internationally recognised entertainment and digital technology sectors will be continued in the programme through consultations, guest lectures, and internship opportunities.

ABOUT THE PROGRAMME

Computer Graphics students will use industry-standard languages, libraries and software packages, with the aim of exploring how these can be exploited to produce new modes of creative visualisation.

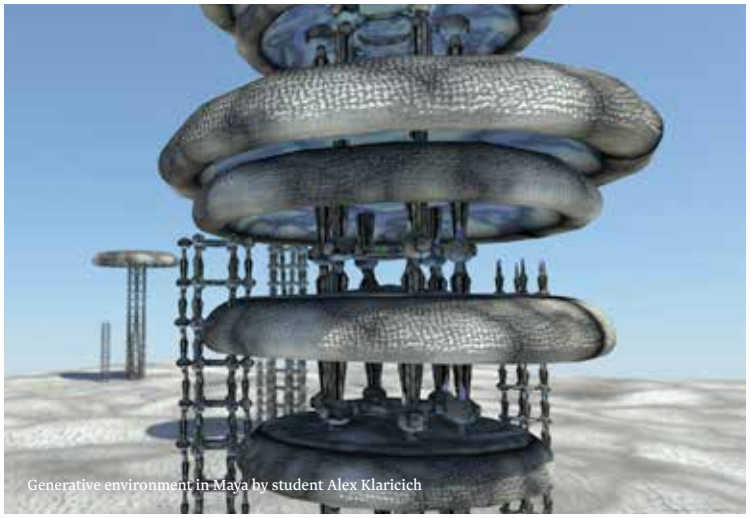
The programme also emphasises the aesthetics and craft of computer graphics techniques. Graduates can expect to have developed a rich portfolio of computer graphics work underpinned by a solid understanding of the mathematical and computer science principles that govern computer graphics, enabling them to enter the field with a highly competitive edge.

THE BEST OF BOTH WORLDS

The MDI in Computer Graphics is offered by Victoria's School of Design, and the MSc in Computer Graphics by the School of Engineering and Computer Science Both programmes are taught across the two schools by international staff with wide experience in industry and active research careers in computer graphics, media design, and related fields, and include courses co-designed and taught by industry professionals from Weta Digital and Sidhe.

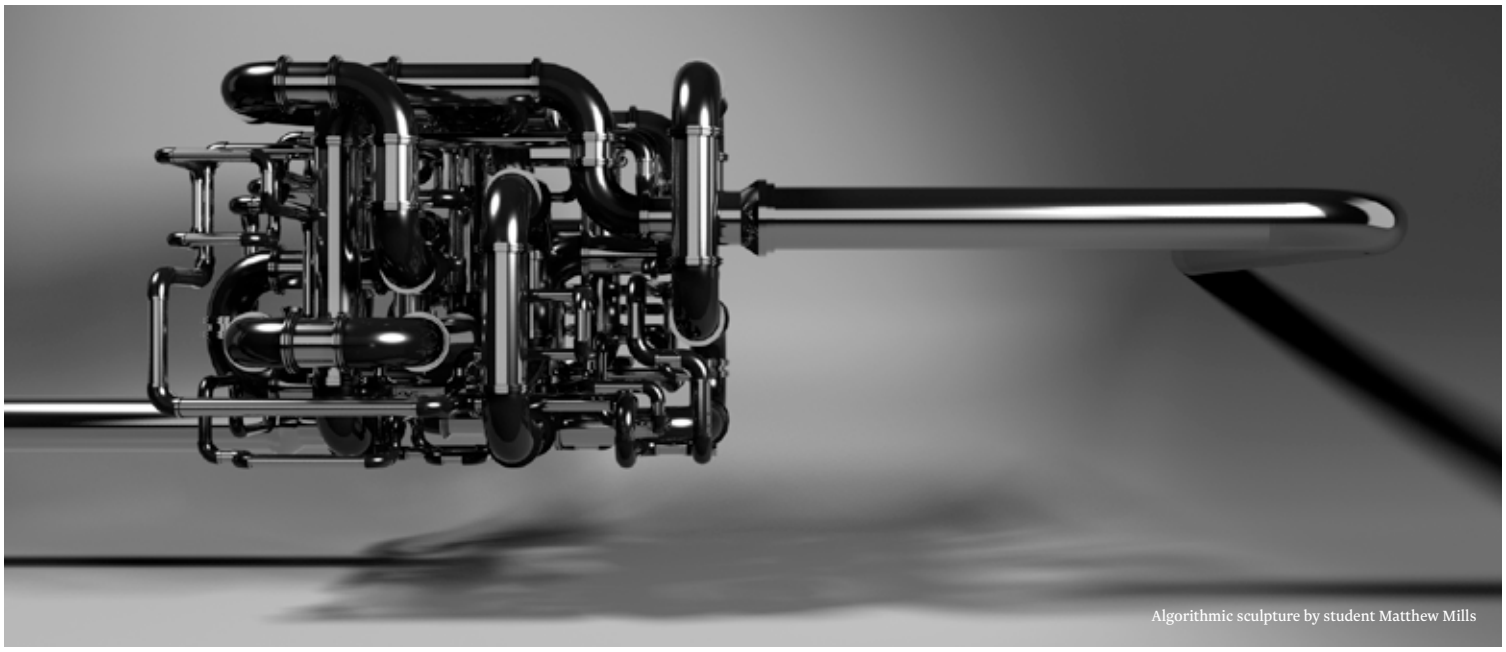
The School of Design sits within the Faculty of Architecture and Design. A leading provider of innovative education in New Zealand, the Faculty offers a range of undergraduate and postgraduate degrees that cater for the diverse and growing requirements of the creative sector.

The School of Engineering and Computer Science sits within the Faculty of Engineering. It brings together the best of engineering and computer science from a well-established group of computer science, engineering and mathematics academic staff.



Generative environment in Maya by student Alex Klaricich

Procedural drawing by student Samantha Carew



Algorithmic sculpture by student Matthew Mills

COURSE STRUCTURE

Both the MDI and MSc are at least two years of full-time study, totalling 240 points.

The MDI comprises 150 points of coursework, 30 points of which are in Computer Science. This is followed by a 90-point thesis focused on Design.

The MSc comprises 120 points of coursework, 30 points of which are in Design. This is followed by a 120-point thesis focused on Computer Science.

SAMPLE COURSES

COMP 408
Computer Graphics Rendering
Ray tracing. Advanced lighting techniques. Texture mapping and its derivatives. Radiosity. Photon mapping. Advanced shading and lighting techniques on modern graphics cards.

COMP 409
3-D Modelling for Computer Graphics
A selection of modelling techniques and applications from polygon meshes, point clouds, B-Splines subdivision surfaces, computational geometry, implicit surfaces, voxels, particle systems and animation.

MDDN 414
Topics in Postproduction and Special Effects
Students will gain advanced level experience at stretching the boundaries of professional graphics packages, including the use of programmed extension and generative approaches. An emphasis will be placed on research-focused studio practice.

MDDN 415
Topics in Computer Game Design
This course allows students to critically examine the expanding technical, social, and cultural role that playing games has within our contemporary society through experimentation and production of digital games across multiple platforms.

MDDN 441
Computer Graphics for Film
This course covers computer graphics techniques that are used as current practice in the film industry. While working on projects that span a range of approaches for generating special effects, and algorithmic treatment of media, students will also review and analyse cinematic examples.

MDDN 442
Computer Graphics for Interaction Design
This course examines computer graphics techniques that are current practice in interactive computer graphics. While working on projects that span a range of approaches for generating special effects, and algorithmic treatment of media, students will also review and analyse examples from interactive firms.

ADMISSION

Entry is at the discretion of the university.

Master of Design Innovation
Applicants should have a good first degree in Media Design, or the equivalent, with moderately strong technical skills and sufficient Computer Science courses to undertake graduate study in Computer Graphics. A portfolio is required.

Master of Science
Applicants should have a good first degree in Computer Science with moderately strong Mathematics and sufficient Media Design courses to undertake graduate study in Computer Graphics.

PATHWAYS

Bachelor of Design Innovation
Undergraduate Media Design students planning for the Master's in Computer Graphics will enrol in a series of undergraduate courses with a Computer Graphics focus, designed to systematically build the unique skill set and knowledge base required by this specialisation.

Bachelor of Science
Undergraduate Computer Science students planning for the Master's in Computer Graphics will enrol in a series of undergraduate courses with a Computer Graphics focus, designed to systematically build the unique skill set and knowledge base required by this specialisation.

Undergraduate Qualifications
(from other universities)
Students with an undergraduate degree from another university may apply directly to the MDI or MSc in Computer Graphics; however, they must possess the unique skill set and knowledge base required by this specialisation.

Graduate Diplomas
Students seeking to do the MDI or MSc in Computer Graphics may gain entry by successfully completing a Graduate Diploma in Science or Graduate Diploma in Design Innovation with a Computer Graphics focus.

PHD STUDY

Victoria offers the opportunity for students who complete the MDI or MSc in Computer Graphics, or who have comparable qualifications or appropriate experience, to apply to continue their work through a PhD programme. All PhD students are eligible for domestic tuition fee rates.

START DATES

+ Master of Design Innovation: late February
+ Master of Science: late February and July

INTERNATIONAL TUITION FEES

Tuition fees for the Master's programmes are approximately NZ$28,000 per year.

FIND OUT MORE

To find out more about Victoria's Computer Graphics degrees, including how to apply, see **www.computergraphics.ac.nz** or contact Victoria international, details below.

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