

# CAREER VIEW

## DESIGN

Whether it is driverless cars, online games, robot companions for the elderly or compostable coffee lids, designing anything is a process that evolves in response to a human need, problem or desire. A design process develops a plan to make a product, service, system or something more engaging, perhaps a brand identity or a cultural experience.

Design is an integral part of the culture and context within which it operates. Designers learn lessons from the past and speculate about the future. Their designs are part of making tomorrow happen. Digital technology is being used increasingly in industrial design and manufacturing processes. For example 3D modelling allows products to be designed and tested in virtual space and time. This enables a fast turnaround from the conception of an idea, to prototyping and testing a product, to the actual manufacture and opening up of new possibilities in product development.

The world of design covers a very broad range of areas. **Communication design** involves learning to communicate effective visual messages, information and ideas that contribute to a successful design product.

**Graphic design** is a form of visual communication and uses images and other visual elements to convey ideas.

**Design for social innovation** examines the relationship between design and culture, society, technology and the environment. It explores how these factors impact on each other and delves into the theoretical and practical connections between them.

**Industrial design and product design** involves the development of all kinds of useful and meaningful products imaginable that enrich our daily lives for a wide variety of industries. Products can be anything from physical objects—like furniture and medical equipment—to digital services and systems.

**Interactive design** looks at how humans connect with a vast range of physical and digital systems to improve their lives. For example how people experience products, from physical objects to digital interactions, with apps and websites.



**Media Design** explores the different ways people interact with digital technology. This includes web experiences, visual and audio communication, augmented and virtual reality, gaming and mobile media.

The study of design can plunge into the cultural, psychological, philosophical and political significance of objects, services, systems and rituals, work and recreation. Therefore, design links well with many other subjects such as engineering, computer studies, information systems, anthropology, psychology, sociology, film and media studies, communication, marketing, management, history and education.

*Topical coverage of career related issues brought to you by Victoria University Careers and Employment.*

*Areas covered include how degrees and courses relate to employment opportunities, to life/work planning, graduate destination information and current issues or material relevant to the employment scene. Your comments and suggestions always welcomed.*

Designers have an obligation to be socially and environmentally responsible. When designing new products and services, responsible designers take into account the impact of their work on people and the environment. For example, designers may consider whether the materials, natural resources and energy their products and services use are renewable. The quality and longevity of their product may be significant, and whether it is safe, ergonomic and devised to meet the needs of its users. Global initiatives in green manufacturing and eco-design promote the design of sustainable building, electronics, packaging and many other goods and services.

Paperweights, Andy Lee



## WHY STUDY DESIGN?

Increasingly, businesses are interacting with more customers and clients online. This has led to a growth in usability and user experience design. An increased awareness of equity issues in terms of digital access is also leading to some growth in accessibility design in terms of visual, sound and information architecture. There is a lot of overlap with digital design, digital artistry, experiential design and advertising. The phenomenal growth of 3D printing has transformed the practice of design and is changing the role of designers. New Zealand also continues to be at the leading edge in terms of animation and commercial media production.

Many employers and clients value the skills, ways of thinking and the ethical attitude to professional work that is nurtured in the study of the cultures and contexts of design. During their studies, students will develop an important self-marketing document and a tangible outcome of their learning and skills— a portfolio of work that shows creativity and originality and the level of skill to which their ideas are realised.

## WHAT SKILLS DO DESIGN STUDENTS DEVELOP?

Creativity and problem solving drive design processes. The designer responds to a client's brief or proposal. He or she analyses the brief, does the research, develops ideas, tests and refines them. The process often involves making a prototype or a working example of the product. Once the prototype has passed tests, the product or service is made, marketed and sold, if it is produced for commercial purposes.

**Creativity.** The ability to generate original and innovative ideas and follow through is paramount in design. During course work, written assignments or projects in design studios, students learn about the creative process, imagining, developing ideas and testing them in real and virtual worlds.

**Lateral thinking.** Designers think outside the square, making new connections and are open to the unknown. Innovative thinking is needed in finding new solutions to problems and creating new methods of approach. Students develop this skill through their project work. They also need to have a high tolerance of ambiguity and be prepared to iterate – learning from mistakes and starting over again until there is a finished product.

**Digital, electronic and other technology skills.** Students become skilled in the use of multimedia, 3D fabrication and other electronic technology as part of their projects and presentations. **Crafting and technical skills** in virtual and non-virtual worlds are honed through constant practice and reflection.

**Problem solving.** During their degree studies Design students learn how to “unpack” problems and generate viable solutions as a key part of the design process and course work. **Cultural and social awareness** is required to consider the cultural and social significance of the objects they design and the psychology of the end users.

**Analytical and critical thinking** skills are necessary for effective decision-making and problem solving. Analysis includes the ability to identify a concept or problem, tease out its components, organise and evaluate information and to draw appropriate conclusions. These skills are acquired through

academic work and are a necessary component of the design process. Ideas need to be evaluated and tested for their workability and relevance to a design brief.

**Communication.** Design graduates are skilled in many aspects of communication. These include writing, graphic/visual means and verbal communication. They also practice listening and reading to understand briefs and become skilled at presenting projects to their peers.

From working on projects and developing portfolios, students learn **presentation skills** such as paying attention to visual representation, attention to detail and quality in presenting the finished product. They also polish their techniques in **persuasion** when pitching their ideas to decision-makers.

**Teamwork.** Designers must understand the requirements of their clients and target markets. Design often involves collaborative work between members of a design team and other professionals such as engineers, manufacturers, trades people, ICT technicians, web and gaming companies, marketers and communications managers. During degree studies, students work on projects in groups and learn about the work of other professionals while using project methodology to work together. At the core of that is getting things done with and through others—being able to offer critique to others and accept criticism.

**Self-motivation.** Exploring ideas, concepts and theories, then making design ideas real in the relevant media requires staying power beyond the thrill of inspiration. Design can require long hours of detailed work as well as the ability to stay tuned to the bigger picture. Self-motivation indicates to employers that graduates are prepared with an answer to a question rather than asking without first attempting a solution. Graduates gain experience in asking questions and finding solutions through their degree studies.

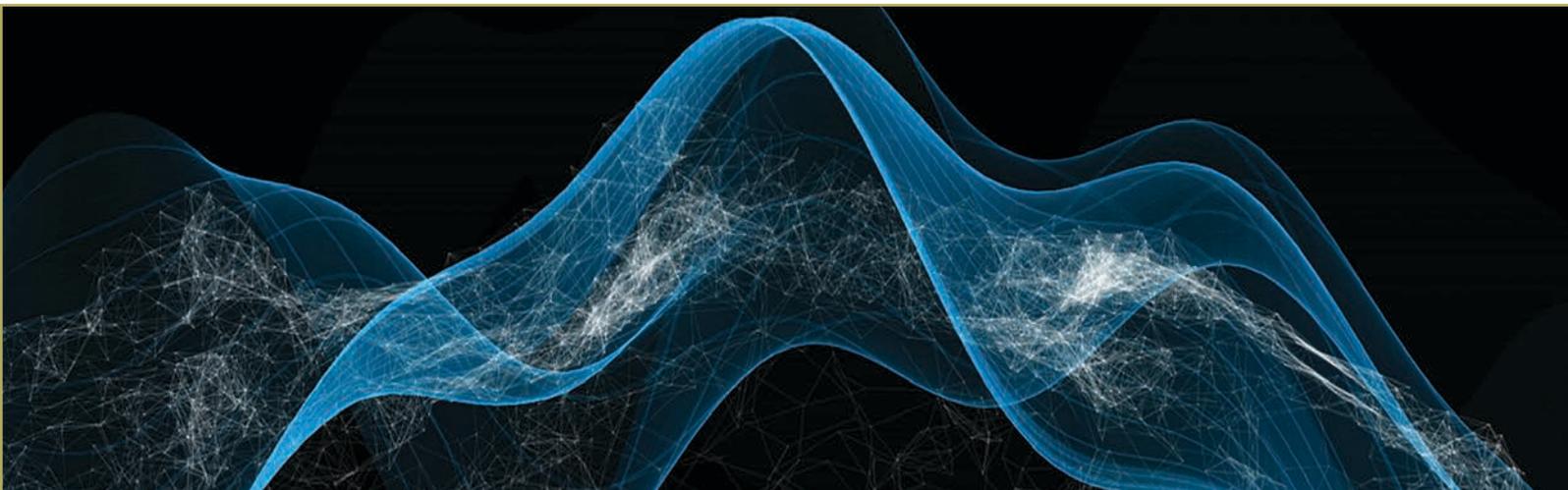
## WHERE DO DESIGN GRADUATES WORK?

Design graduates can expect to work within an exciting and varied range of organisations both domestically and internationally. In New Zealand, an increasing number of companies are factoring design into their business processes and services. Manufacturers are maintaining design capability while they may be moving manufacturing offshore. Innovative companies are thinking laterally and establishing niche markets for their unique designs. In a global market, design can set products apart and achieve a competitive edge.

Designers often work in consultancies and contract their services to many different organisations – government, not-for-profit sector, other consultancies and companies across all industries such as manufacturing, architectural, engineering, agriculture, retail, the film industry. The multimedia production and film industry is a growing area of employment for industrial and digital media designers. Emerging areas in design include usability, service user-centred or human-centred design, and larger organisations in government and the private sector may have specialised roles in these areas.

**National, regional and local government bodies** contract work out to design consultancies as required. Some may have design capability in-house in areas such as publication and web development. Increasingly government departments and service agencies are employing service or business designers, design advisors, facilitators, advocates and developers. A number of management consultants, business development or web design companies offer usability and service design consultancy to larger organisations.

**Advertising agencies** employ people with digital design skills. Advertising is concerned with the promotion of goods and services through all media. Most agencies work online and employ designers



to create websites and design graphics, animation and interactive features to create distinctive brand presence for their clients.

**Art galleries and museums** employ designers, design critics and design promoters to design and curate exhibitions, mount installations and create interactive media.

**Educational resource companies** and **publishers** develop many exciting learning experiences using all forms of media.

**Multimedia design industries** are a rapidly growing and significant international market where design graduates can apply their skills in visual effects, animation, and augmented and virtual reality and have the opportunity to learn from industry. Gaming companies, television and film studios, post-production studios and video production companies recruit digital media designers. Designers also find work with live productions such as theatre and concerts. Employers seek designers who are well trained, open to new ideas, and can adapt well to changing trends. Media and industrial design students also develop skills that are used in film production and post-production.

**Marketing companies and sales and marketing departments** of firms in all industry sectors may hire designers with specialist knowledge to sell designs and products in domestic and overseas markets.

**Retail companies** may hire graduates to design the retail aspect of the business. This is likely to involve visual merchandising, window and store displays,

creating experiences for customers that appeal to the five senses, product information, and using technologies such as digital displays and interactive installations.

Industrial design students develop the innovative and 3D fabrication skills with **product researchers and developers** or **manufacturers** creating niche products for a range of markets, from humane animal traps to artificial limbs for a range of markets.

**Self-employment.** Industrial and digital media designers are often entrepreneurial and find they are well suited to self-employment. They contract their services to public sector organisations, regional and local authorities, to corporate, large, medium and small businesses or operate as part of a business incubator.

**Education.** Universities employ design graduates interested in a career that combines practice, research and teaching. Graduates considering an academic career may require a PhD to be competitive for junior positions. Teaching at secondary school level is a viable career option for design graduates. Graphic design and technology teachers are often in demand. Where there are teacher shortages, scholarships may be offered and TeachNZ can advise on this. A postgraduate qualification in teaching is required.

**Critical or technical writing, reviewing, research.** Writing and editing online content, journals, magazines and newspapers is an employment option that may require further training. Writers with a specialist background in design who can communicate knowledge in a clear, interesting and insightful way to

a broad cross section of readers may find a niche market for their skills. Technical writing is another opportunity where specialist knowledge is needed for writing manuals, reports or industrial documents. Academic research into all aspects of design contributes to the evolution of human thought and to the understanding of our species.

Biological Camera, Nicole Hone



# GRADUATE PROFILES

Research into various aspects and perspectives of design is also an option in academic, industrial and media contexts.

## PROFESSIONAL ASSOCIATIONS

Joining an association as an undergraduate or new graduate is a good way to form networks, to begin professional development and hear about companies that are recruiting in areas of interest. The Designers Institute of New Zealand (DINZ) has membership categories for associate students and graduates. To become a professional member, candidates must pass examination by their peers. The Institute represents Graphic Design (visual communication), Spatial Design (built environment), Industrial Design (product design, consumer and capital goods), Craft Design (art and craft media), Design Education (the teaching profession) and Design Management. DINZ has a Student Council whose aim is to give students a voice in the industry, and to provide mentoring and networking events for students of all Design disciplines.

## JOB TITLES

Following is a selection of titles taken from our graduate destination surveys. Some roles may require postgraduate or conjoint qualifications and training. Titles can include:

3D artist • account manager • business designer • CAD and digital • creative director • critic/researcher • curator • design and technology teacher • design consultant • design gallery owner/manager • design manager • design in business strategist • director • exhibition designer • experience designer • film prop or set designer • furniture and office systems designer • futurist • game developer • industrial designer • information architect • interactive product designer • live media artist • media buyer • media developer • online content developer • producer • product designer • project development manager • prototyping designer • robotics designer • self-employed designer/maker • service designer • sonic artist • spatial designer • special FX editor • usability (UX) designer • web designer

### **Robert Skene**

*Team Leader Molding and Fibreglassing  
Weta Workshop*



One of the things that drew me to studying Design as well as the benefits of degree study was the exposure to the latest emerging manufacture technologies. I've always been creative, and while studying I was able to hone my thinking and making skills as well as learn new ones that help to make me a more versatile technician now, something that is crucial in the ever changing world of film. While studying a Bachelor of Design Innovation degree, majoring in Industrial Design, I learnt about a wide range of design theories and principals as well as both traditional and digital manufacture processes.

For anyone considering studying Industrial Design, it is good to know that this study can help give the breadth of skills needed to succeed in a many different careers. Make sure that you have a good portfolio, practice your people skills and be persistent, as along with the opportunities to use the technologies, these factors helped me greatly in finding a role with Weta Workshop. I have since progressed to being Team Leader of the Molding and Fibreglassing department. So far I have worked on some exciting projects including the Scale of our War and Bug Lab exhibitions at Te Papa, the Smaug dragon head at Wellington airport and films such as Warcraft, Spectral, Ghost in the Shell (which was filmed here in Wellington) and Power Rangers.

During my time at university, I became familiar with 3D printing and CNC (computer numerical control) milling, using computers to control machine tools such as lathes, mills, routers and grinders. 3D printing, making things from three-dimensional digital models, is great for fast prototyping and manufacturing. At Weta Workshop we integrate these methods with other more traditional handcraft processes to produce items for film and exhibitions to a high level.

The practice I had conveying design ideas and concepts both verbally and visually has been invaluable working as part of a large team. The ability to work with others under pressure, resilience, tenacity and passion for what we do were also really important. The pace at the workshop can be full-on most of the time and you really need to be prepared to work hard however seeing the team's work come alive is really rewarding.

**Zara Nathan**

*UX Designer  
National Australia Bank*



I had always wanted to be a designer, but for what specifically I was never sure. In school I wanted to do either fashion design, or interior design. I then enrolled for industrial design, and in the first year you had to take courses in all three majors. I had an interest in coding as well as animating, as it wasn't something I'd had the opportunity to explore in high school, so I decided to switch to media design to see where that could take me. That is something I would suggest to prospective Design students: don't be afraid to try new things and change direction as you won't be get a feel for what the different degrees have to offer until your first year where you do courses common to all the design majors.

I enjoyed the variety our course provided; we were able to learn about mobile media, UI (user interface) design, as well as post-production and motion graphics. These two different areas interested me the most, and they were where I could see myself working. However, game design and wearable technology were also fascinating as we looked at everything from game art production, to usability evaluation and the way we interact with objects and technology. There was also an opportunity to research and experiment in specific wearable technology design projects, which gave us the opportunity to be creative using very different media.

The main highlight of learning from my studies was time management. For post-production you could never allow learning design programs such as Maya to be a last minute thing. Likewise, coding can be very unpredictable and you don't know if something will go wrong for your project. You need to allow yourself that extra time.

Originally, I gained an internship with a start-up in Wellington straight after finishing my course. I am currently working as a UX designer in Melbourne. The most helpful factor for me in getting this role was my background in working with web developers while studying, as well as taking part in an independent study creating a mobile app product. Through this independent study and the mobile media course, I was able to learn the user experience process from start to finish.

**Kelly Ann Cunningham**

*Principal  
The Australian Centre for Social  
Innovation (TACSI)*



Taranaki te maunga,  
Waiwhakaiho te awa, ngāti  
pākehā te iwi.

I studied a Bachelor of Design Innovation, majoring in Culture and Context with a minor in Cultural Anthropology. I have always had a deep curiosity for people and culture, as well as tonnes of empathy, a passion for social justice, and a desire to do work that does good.

I am a strategic designer, researcher and coach. My work at The Australian Centre for Social Innovation (TACSI) involves the leadership and support of a team of designers, researchers and social workers to tackle complex challenges such as ageing, improving access, youth well-being and child protection. Previously, I worked at a social change agency based in Aotearoa.

After completing my degree, I spent three years working as a User Experience Designer. I was able to build on my design practice and tackle a range of challenges in the public and private domains. My introduction to the agency came through a guest lecture while I was studying. During that time I drew heavily on the critical thinking and problem solving skills that my design education offered. In addition, I left university equipped as a strong written, visual and verbal communicator.

Studying culture and context allowed me to understand how we shape design, and design shapes us. We have a duty of care to those we work with, and for. I particularly enjoyed the focus on critical and speculative design - I think it's unique from other design programmes. I have used that perspective throughout my career, and explored speculative and design futures more deeply.

The advice I would give to those looking to follow this path is to focus on building your mindsets for innovation, not just your methods. Care more about people than you do your own ideas; play as much as possible, with as much lightness as possible; build a reflective practice early in your design practice and create a practice of Aotearoa, inspired by Te Ao Māori.

## Sarah Kong

*Quality in Design & Process  
Designer  
phil&teds*



Growing up, I had a great curiosity for how things work, fit together and are made. At school, I excelled in graphics, design art and photography so it seemed only natural to choose a creative career path.

After seriously contemplating Architecture, I decided to major in Industrial Design because I felt that major would give me the skills to work on a wide range of projects.

I chose a Bachelor of Design Innovation (and subsequently Master of Design Innovation) because of the programme's focus on conceptual and critical thinking, which really pushed me to grow and learn to design beyond the surface finish of a product. The most enjoyable part of my degree was the feeling of accomplishment from overcoming design challenges to complete my course work. Industrial Design is an intense course which tests your drive and determination and forces you outside of your comfort zone. It is a rare opportunity to explore strange, far-fetched, crazy, curious 'what if?' and 'why not?' conceptual ideas.

Skills that I gained during my degree include computer aided design (CAD), digital manufacture (such as 3D printing, CNC tools, Laser Cutting) critical thinking, project management and learning how to learn. These skills led me to work as a production manager in digital manufacture for Ponoko and more recently, as a process designer in a product development co-ordinator role at phil&teds in Wellington. My work now is very much cross-disciplinary and often my designed outputs are not only 'physical' products, but strategies and processes that aim to increase efficiency and clarity with a focus of putting people first. I still reference the core skills and values that I learnt in my degree every single day.

Our world is becoming increasingly connected and complex. Design is not just about physical styling and aesthetic, but also all about connection, interaction, experiences, communication and more. While I was studying, I had no idea that my Design degree would give me the skills to work in areas outside of a traditional designer role. I really value the critical thinking skills that I have learnt, which have proven to be incredibly versatile - not only applying to the design of physical things but also the design of processes, strategy and experience.

## Catherine Caudwell

*Postgraduate Programme Director  
School of Design  
Victoria University*



I always leaned towards the cultural, contextual and theoretical side of Design. This means I enjoyed the writing, research and ideas more than the making part. I received my undergraduate and Master's degree in Fine Arts, majoring in Sculpture, with a particular focus on interactive mixed media installation art. My work explored how technology was adopted and repurposed to address complex hopes and fears. After I finished my Master's, I was an intern at Enjoy Public Art Gallery and met a Victoria staff member who introduced me to the School of Design. This led to a PhD in Design Studies at Victoria, where my focus was entirely on Furbys (remember those?) as artificial and electronic companions. Through them, I explored the thoughts and feelings of people in relation to social robots and evaluated how their stories communicate their feelings about technology.

I've been lucky especially in my PhD to get a Scholarship that allowed me to find something I was fascinated by and could explore fully. Before becoming a researcher, my primary skill was soft sculpture and toy making, and I had some experience with electronics and robotics. I had not done a lot of formal research before my PhD, so it was an opportunity to hone those skills. I also worked as a Research Assistant doing ethnographic field research, where I helped to gather qualitative data through interviews and participant observation. Engaging in qualitative research meant learning research methods and methodology, putting a project together, and planning and conducting different approaches to gathering data about people. I also needed to find ways to explore ideas and insights and put them into practice.

Looking back, I can see that understanding and enjoying the process more than the subject matter was the key to learning. By pinpointing early on what it is you enjoy and why, and the way that you like to learn can lead you into some interesting niches. I now teach different methods of user research and UX (Usability) Design, conducting qualitative research in the field. It is important that designers are also researchers and writers, so that they can better understand and communicate with people. It's exciting that design is becoming increasingly multidisciplinary, and has space for such diverse skillsets.

## DESIGN INNOVATION AT VICTORIA

The School of Design offers a three-year Bachelor of Design Innovation (BDI). Students specialise in one of five design disciplines and have the opportunity to combine studies in design with a minor in another discipline such as Psychology, Anthropology, Māori or Pacific Studies, Writing, Film or Media Studies. This provides students with opportunities to configure their course of study to suit your individual interests and intended careers.

Minors offer Design students the ability to construct courses of study that build on the richness of the University's programmes, and, in so doing, extend the reach and relevance of design in approaching today's challenges. Bachelor of Design Innovation students are also able to complete an optional area of focus within their major. This is called a specialisation. The degree begins with a first-year programme that is shared by all specialisations within the BDI. The first year consists of core courses and courses prescribed by your chosen minor or elective courses. This is followed by two years of specialised study in one of the following majors:

- Communication Design
- Design for Social Innovation
- Industrial Design
- Interaction Design
- Media Design

The BDI then leads into a two-year Master of Design Innovation (MDI). The flexibility of our degree structures, at both undergraduate and postgraduate level, gives students a variety of options and, therefore, a much greater opportunity to customise their course of study to individual interests and desired career pathways.

Innovation is also a central aspect of design education at Victoria, as reflected in the names of our qualifications. In studios and seminars,

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an experimental approach to design and design education is practised at the School. This methodology encourages creative and critically reflective design solutions. Innovation is a key part of any research project, and at the School of Design we are proud of our research-led programmes. This is true for both the BDI and the MDI, with staff research informing the undergraduate experience, and at the Master's level, with students actively engaged in research and the creation of new knowledge through good design.

The most distinctive characteristic of Design at Victoria arguably is our emphasis on interdisciplinarity. This is a result of our belief that design and design education are enriched through interaction with disciplines not typically associated with design. This approach has real-world benefits, as demonstrated by our graduates who occupy a great diversity of professional positions and are pursuing exciting career pathways, both in New Zealand and abroad. Students and staff in the School of Design have had the opportunity to conduct projects with companies such as Nokia International, Methven, Click Suite, Wellington Hospital, Ponoko.com and Sony to name a few. The School acknowledges partnerships and connections with Weta Workshop, The Goethe Institut, Vitra Minatures, Fisher&Paykel, Nike and Vodafone.