

AUT

A FUTURE IN
**CONSTRUCTION
MANAGEMENT AND
QUANTITY SURVEYING**

WHAT IS CONSTRUCTION MANAGEMENT AND QUANTITY SURVEYING?

The importance of delivering well-built and sustainable buildings within budget – whether high intensity housing or commercial construction – cannot be underestimated. The ability to specify better materials, deliver enhanced productivity and manage processes means the difference between achieving a sustainable built environment and not. Construction managers and quantity surveyors play a vital role in ensuring these outcomes in the construction industry. They are at the nexus of time management, technology, money and people.

The construction industry spans a vast range of roles, from designer and commercial management to physical construction, to asset management of the finished infrastructure. Construction managers and quantity surveyors combine the technical understanding of how construction takes place (in all forms – infrastructure, commercial and residential projects) with the commercial realities of the construction industry.

Construction managers focus on the operational and site management of construction helping control and coordinate the resources and people involved in a project. Quantity surveyors manage the financial side of construction projects including costings and contract management.

Construction professionals today need to be innovative, continually thinking of new solutions or rethinking existing solutions in new and value-creating ways. They need to be conversant with the skills, tools and techniques needed to contribute extensively in terms of creativity and innovation.

The NZ Government continues to advise of a significant need for skilled labour in construction. Both construction management and quantity surveying are included in Immigration New Zealand's (INZ) long term skills shortage list.

Are you a practical problem solver and good at maths? Are you fascinated by construction and want to help change the world? Are you interested in the responsibility of costing, planning and delivering the infrastructure New Zealand needs now and in the future? Then a career in construction management or quantity surveying may be the option for you.



OUTLOOK AND TRENDS

Global demand – The global construction market forecasts the volume of construction output will grow by 85% to \$15.5 trillion worldwide over the coming decade. This has led to international demand for construction management and quantity surveying qualifications. In New Zealand the sector has been one of the most rapidly growing industries, particularly the housing sector.

While housing construction has slowed in recent months, the demand for infrastructure, roads, schools, water management, and hospitals has grown consistently over the last two decades and continues to be the engine driving the future of New Zealand construction. The 2021 budget saw government commit \$57.3bn to infrastructure spending between 2021 and 2025.

Source: <https://infrastructure.org.nz/budget-2022-and-addressing-the-national-infrastructure-deficit/>

Complexity of construction – The complexities of construction management and quantity surveying have escalated dramatically over recent years. Consequently, global product and solution markets

require professionals to have a broader awareness of construction methods and project management issues, particularly of pertinent techniques needed in the modern day.

Evolution of materials – New structural systems, fenestration solutions, piling systems, seismic designs and waterproofing technologies continue to evolve. Measurement and costing solutions must also evolve to reflect the costs of the changes. These processes need to be managed by professionals who are flexible problem solvers and open to new scenarios.

Industry game changers – Big data, Artificial Intelligence and predictive analytics, robotics/automation, Internet of Things, as well as additive manufacturing techniques, have been identified as game-changers for the construction sector. Similarly, advances in more widely known and utilised 'disruptive technologies' such as building information management (BIM) prefabrication and offsite construction technologies are rapidly changing the skill sets required on a construction site.

WORK SETTINGS

Construction managers and quantity surveyors are part of every construction site in New Zealand from roads, to tunnels and bridges to highrise apartments and commercial buildings. Some will work for a company that specialises in construction management or quantity surveying – others will work for a large company that has many projects on the go. They can work in private practice or for contractors.

CAREER ROLE EXAMPLES

Construction manager – Manages the day-to-day workings of a construction site. Schedules and coordinates design and construction activities at a site level. Prepares and negotiates budgets and timetables. Meets regularly with clients, third parties and contractors. Interprets technical information to tradespeople. Ensures compliance of all building and safety codes etc. Responsible for the project to be done on time, to budget and to required standards.

Senior project manager – Oversees and directs teams involved on the construction site, including other construction managers, managing multiple projects simultaneously at a strategic level. Significant responsibility for procurement of key capabilities. Manages inter-company relationships during initial design development through to breaking ground on site.

Manages commissioning and hand over of project to client. Initiates site activity investigations and assessments. Analyses, evaluates and initiates potential energy conservation measures. Prepares project reports including work schedules, implementations, deviations, change in subcontractors, customer issues and other related problems.

Quantity surveyor – Estimates and manages material costs, labour costs, insurance estimates etc according to client requirements. Regularly checks project is on time and on budget. Resolves issues between contractors and subcontractors. Provides advice to clients as to the commercial considerations of site operations. Heavily involved in the consideration of tenders, drawing up contractual documentation with the successful tender company in conjunction with legal counsel. Evaluates the amount of work completed periodically to establish the quantum of continuation payments. Manages disbursement of funds to contractors and subcontractors during the project.

Senior quantity surveyor – Primarily responsible for commercial operation of a project, sourcing all the costs and preparing quotations and tenders. Provides advice to clients and assists project managers in the procurement administration of the project. Manages project budgeting – is principal controller of cash flow and cost. Substantially involved in the processing of claims, contract payment and settlement of final accounts as well as maintaining proper documentation. Often manages a small team of junior quantity surveyors.

SKILLS & KNOWLEDGE

These skills are generic to construction managers and quantity surveyors:

- Knowledge of project, business management and planning principles and theory in construction management and/or quantity surveying.
- Effective at evaluating client procedures and processes and critically assessing practical methods necessary for construction and maintenance of buildings.
- Able to identify, evaluate and manage health and safety, technical, legal and commercial risks in construction problems and decision-making.
- Can manage money, equipment, materials, information and technologies effectively and professionally.
- Understand legal and procedural techniques for conflict avoidance, conflict management and dispute resolution procedures.
- Able to critically review reports; write effective and professional documentation and deliver effective presentations.
- Ability to critically assess why and how sustainability seeks to balance economic, environmental and social objectives in the context of land, property and the built environment.
- Acts ethically and in accordance with the code of conduct and professional practice associated with a construction professional.

PERSONAL QUALITIES

- Strong clear communicator, in written form and verbally
- Effective at negotiations and mediation
- Practical and pragmatic
- Analytical with an eye for detail
- Able to work well under pressure



SALARY GUIDE

These salaries do not include benefits such as company vehicles, overtime and bonuses for delivering on schedule.

	Approximate salary range
Construction manager	\$58,000-\$68,000 1-3 yrs experience \$91,000-\$105,000 4-9 yrs experience
Quantity surveyor	\$52,000-\$64,000 1-3 yrs experience \$70,000-\$82,000 4-9 yrs experience \$90,000-\$130,000 10-19 yrs experience

Sources: Payscale, Jobted, nztalet, salary expert-ERI, Careers NZ
These salaries are indicative of the New Zealand job market at the time of publication (May 2022) and should only be used as a guideline.

THE AUT APPROACH

The AUT Construction Management and Quantity Surveying majors have been established in response to high demand from the construction sector. Students are required to do 600 hours of work placement over their three-year degree – a key professional competency requirement expected for Royal Institution of Chartered Surveyors (RICS) membership.

FURTHER STUDY OPTIONS

Further study options at AUT could include the Master of Construction Management, Master of Engineering Project Management, or Master of Philosophy and PhD options depending on your desired career direction. Research specialisations include construction supply chain management, procurement, health and safety in construction and building refurbishment amongst others. In short – just ask us and let's see where your research interests can go.

PROFESSIONAL ACCREDITATION

Quantity surveyors and construction management professionals can gain registration under RICS or apply for membership directly to construction management led professional bodies – NZ Institute of Building (NZIOB) and the Chartered Institute of Building (CIOB) amongst others.



NAVEEN UMACHANDRAN

Quantity Surveyor at Hawkins

Master of Construction Management*

"After university I decided to specialise in construction economics and construction law. I initially started as an estimator but transitioned into a quantity surveyor role with Hawkins because I wanted to be more actively involved in projects. I jumped at the opportunity to work for Hawkins – one of New Zealand's leading construction companies with a very diverse portfolio with iconic projects across multiple sectors.

My everyday tasks involve cost tracking the work that's happening on site and procuring materials and subcontractors as required. I also price any variation to the contract work. I'm also responsible for identifying risks and opportunities that might impact the project's finances. Every month I report the costs incurred that month and forecast the expenses for the coming month. I also document our learnings from the project so we can carry them over to the next one. It is much more exciting than I make it sound!

My main goal is to ensure that the project is profitable. No two days are the same. Every challenge I encounter on site is like a little puzzle to solve. It drives you insane till you solve it, but it is very rewarding when you do. I get to learn something new every day too, working with such a large and diverse contractor.

The construction industry is a tough one to crack for migrants as construction processes and terms are completely different from back home. My construction management study gave me an insight into how New Zealand's construction industry works and equipped me to become successful in it.

My tips to students are to always keep learning. You never know what piece of random information you pick up from a conversation will help you somewhere. Every small detail can make or break the project – the devil is in the details – and MS-Excel is your best friend."

*AUT also offers a Bachelor of Construction in Construction Management or Quantity Surveying

EMPLOYER COMMENT

"A lot of quantity surveyor work is to do with money so I look for precision, conciseness and enthusiasm. Coming from an estimator background, Naveen had demonstrated he was concise and precise. He was also very enthusiastic. The role also needed groundworks experience and Naveen was working in civil construction at the time I interviewed him so that was a plus.

It is important to realise that when you're based on a project, whether project manager, site manager, quantity surveyor or administrator, is it not a 9-5 job. You are also not in the same office year in and year out – you go to many different locations, different projects and different clients – and that is an exciting part of the role."

Derek Bown

Commercial Manager, Hawkins

USEFUL WEBSITES

NZ Institute of Quantity Surveyors
www.nziqs.co.nz

Royal Institution of Chartered Surveyors
www.rics.org

New Zealand Institute of Building
www.nziob.org.nz

Chartered Institute of Building
www.ciob.org

Connexis
www.connexis.org.nz


FURTHER INFORMATION

For the most up-to-date information on studying construction management and quantity surveying at AUT, visit:
www.aut.ac.nz/construction

For other Future Career Sheets visit:
www.aut.ac.nz/careersheets


EMPLOYABILITY & CAREERS

For employability and career support, AUT students can book an appointment through
<https://elab.aut.ac.nz/>

 @AUTEmployabilityandCareers

FUTURE STUDENTS

Contact the Future Student Advisory team for more information: www.aut.ac.nz/enquire
futurestudents@aut.ac.nz

 @AUTFutureStudents


CURRENT AUT STUDENTS


Contact the Student Hub Advisors team for more information: 0800 AUT UNI (0800 288 864)
www.aut.ac.nz/enquire
studenthub@aut.ac.nz

CITY CAMPUS


55 Wellesley Street East, Auckland Central

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The information contained in this career sheet is correct at time of printing, mid-2022.

