Master of Catchment Science

International WaterCentre

CRICOS 099375F

Griffith UNIVERSITY
Queensland, Australia

86 countries

We have delivered education and training to individuals, communities and organisations from more than 86 countries.

1,000+ alumni

We have welcomed more than one thousand water professionals through our education and training programs.

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The Master of Catchment Science is the only catchment-dedicated postgraduate degree in the world.

170+ partner organisations

We are now supported by a network of more than 170 partners, affiliates and associates from across the world.

SDG6

We develop water leaders who work toward achieving available and sustainable water and sanitation for all.

Fast facts

LOCATION	Griffith University - Nathan campus
COMMENCING	Trimester 1 and 2
DURATION	2 years full-time (part-time equivalent)
OPEN TO	Domestic / International students

Master of Catchment Science

We have drastically changed the way our catchments operate, through land clearing, vegetation changes and urbanisation. In a changing climate, extreme weather events are exposing the fact that our catchments are no longer resilient.

The Master of Catchment Science is the only catchment-dedicated postgraduate degree in the world. Hosted by the International WaterCentre and developed and delivered in collaboration with Griffith University, the degree is designed to meet the emerging needs of the global water management sector, to develop a new generation of water professionals who understand the full mix of bio-physical processes required to solve catchment issues.

PROGRAM OVERVIEW

In this degree, you will develop:

- a critical and applied understanding of catchment chemical, micro-biological, ecological, hydrological and morphological processes and their determinants, and inter-relationships across a range of scales
- the ability to quantitatively and critically analyse, model, forecast and evaluate the consequences of changes in these processes, using a range of leading data management, analysis, modelling and visualisation techniques and software packages
- an understanding of contemporary and emerging catchment management and restoration options, their operations, and relative suitability for different contexts
- the ability to undertake and critically assess full environmental and project-based cost benefit analyses for catchment management options
- the knowledge and skills to be able to scientifically and quantitatively diagnose catchment management issues on the basis of scientific evidence and to design whole-of-catchment, whole-of-water-cycle management solutions that achieve an appropriate balance and trade-off between costs and benefits from a range of human and environmental perspectives
- the ability to work effectively individually and in teams to design and deliver catchment analysis and restoration projects.

PROGRAM OVERVIEW

The Master of Integrated Water Management program aims to build integrated water management professionals who are able to collaborate, create and deliver innovative approaches to complex water management challenges. The program draws on the expertise of international leaders in teaching, research and practice across a wide breadth of disciplines, taking a transdisciplinary, 'whole-of-water-cycle' approach that equips participants with practical tools and skills for developing and delivering effective water management solutions.

Through this program you will develop effective leadership capacity as well as the strategic, managerial and technical skills you need to advance in the water sector. Program participants learn to:

- use and integrate social and natural science with engineering skills and knowledge to diagnose water management problems from whole-of-water-cycle and systems perspectives
- apply the principles and methods of integrated water management to achieve sustainable development outcomes
- provide leadership, managerial and technical input into the planning and implementation of water policies, projects, programs and infrastructure
- integrate relevant social, economic and environmental factors to more effectively plan and manage water management projects and programs
- collaborate and communicate for better cross-sectoral, transdisciplinary and multi-stakeholder outcomes.

The program also focuses on building the skills of participants in the areas of critical thinking, systems thinking and team work.

A UNIQUE DEGREE

The Master of Catchment Science is a uniquely designed degree, comprised of two graduate certificates:

- the Graduate Certificate in Catchment Hydrology
- the Graduate Certificate in Catchment Processes.

Both graduate certificates provide a pathway into the Master of Catchment Science, for those who don't meet the entry requirements of the master degree. Or, the graduate certificates can be completed separately, if you already have experience in one area of catchment science and want to up skill.

CAREER OUTCOMES

The knowledge and skills you will develop in the Master of Catchment Science are in demand across the world. Graduates will find work in water utilities as well as local, state and federal government, and consultancies.

What's the next step?

To find out how you can become part of the new generation of water professionals, visit our website: www.watercentre.org/study

Or, if you have any questions, contact the IWC education team.

P: +61 (7) 3735 9137

E: education@watercentre.org

WHY ARE HEALTHY CATCHMENTS IMPORTANT?

We believe that ensuring our catchments are healthy, productive and resilient is the cornerstone to protecting our water sources and environment. Everything we do, no matter where we live, has the potential to impact our waterways downstream. Managing our waterways and natural assets at the catchment-level through integrated water management will improve catchment health, as well as support the environment, economy and health of our communities.

WHAT IS A CATCHMENT

MANAGING CATCHMENTS

A catchment area or basin is land that is bounded by natural features, such as hills or mountains from where all run-off water flows to a low point. This low point will be a dam, a location on a river, or the mouth of a river where the water enters a bay or the ocean. Catchment areas vary in size and make-up. Large catchment areas, such as those drained by the Burdekin and Fitzroy Rivers in Australia are bordered by mountain ranges and include major drainage networks of creeks and rivers. Large catchment areas are made up of hundreds of smaller ‘sub-catchment’ areas. These can be bordered by low hills and ridges and drained by only a small creek or gully.

INTERNATIONAL WATERCENTRE

The International WaterCentre was founded in 2005 with the vision of harnessing the diverse expertise of the world's leading water professionals, to educate and empower individuals, communities and organisations, to build capacity to respond to water challenges in innovative ways.

Since its inception, it has grown to become a key player in the global water sector and an important feature of the Australian 'water landscape'. The IWC plays a central role in stimulating and brokering relationships between Australian and international academics, researchers and practitioners, to collectively strengthen integrated water management approaches to tackling complex water challenges.

To date, more than one thousand water professionals from eighty-six countries have benefited from the IWC's education and training programs. This community of water leaders now actively help their local populations and broader societies tackle complex water problems, for the environment, for communities and for the economy.

A global network of more than 170 partners and associates supports the IWC, providing a scope of expertise and experience rarely found in a single, water-dedicated organisation.

GRIFFITH UNIVERSITY

International WaterCentre programs are enrolled through Griffith University and taught from the Nathan campus.

Griffith University was created to be a different kind of university—challenging conventions, creating bold new trends and pioneering solutions through innovative teaching and research. Its high-quality degrees are specifically designed to prepare students for the future and are developed in consultation with industry, based on cutting-edge research, and taught by Australia's most awarded teachers.

Since its beginning, Griffith has been deeply connected to the Asian region, environmentally aware, open to the community and industry focused. Always ahead of its time, Griffith studies and environmental science. Ranking in the top 2% of universities worldwide, Griffith hosts 50,000 students across six campuses in South East Queensland including its Digital campus. At Griffith, students benefit from an extensive network of industry partners to gain the skills and confidence that employers want.

The Nathan campus is situated in tranquil, native koala habitat on the edge of Toohey Forest, just 20 minutes from the Brisbane CBD. Griffith's foundation campus, Nathan offers degrees in aviation, business, government, engineering, information technology, environment, humanities, languages, law, nursing, physiotherapy, occupational therapy, and science. On-campus student accommodation is available.

International WaterCentre
Sir Samuel Griffith Centre, Griffith University
170 Kessels Road, Nathan, 4111
Queensland, Australia

CRICOS Provider 00233E

P: +61 (07) 3735 9137
E: education@watercentre.org
W: watercentre.org

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Griffith UNIVERSITY
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