

AQF LEVEL	AQF LEVEL 9 CRITERIA – MASTERS DEGREE (COURSEWORK)	PROGRAM LEARNING OUTCOMES
PURPOSE	The Masters Degree (Coursework) qualifies individuals who apply an advanced body of knowledge in a range of contexts for professional practice or scholarship and as a pathway for further learning	
KNOWLEDGE	<p>Graduates of a Masters Degree (Coursework) will have:</p> <ul style="list-style-type: none"> ▪ a body of knowledge that includes the understanding of recent developments in a discipline and/or area of professional practice ▪ knowledge of research principles and methods applicable to a field of work and or learning 	<p>Graduates of the Master of Integrated Water Management will have specialised knowledge of:</p> <ul style="list-style-type: none"> • Creative and ethical approaches to integrated water management project design and management including stakeholder and rights-holder identification and analysis; contemporary project management skills and tools; impact assessment, and the design of relevant monitoring and evaluation techniques. • The fundamental science which underpins understanding of the water cycle at whole of catchment scale, including the physical, biological and chemical properties of water, microbial and biogeochemical processes, surface and groundwater hydrology and aspects of water quality and water treatment for human consumption. • Current theory and practice of sustainable development and poverty reduction as it applies to Integrated Water Management in rural and urban developing and developed contexts and covering issues such as poverty, livelihoods, power and participation, gender, and collaboration alongside key emerging frameworks. • Water governance frameworks at the global/international, national, regional/basin, transboundary and local levels and themes of relevance to good governance including sustainable development, collaborative management, water rights and access, equity for marginal groups and regional and catchment scale water planning as a key governance mechanism. • Hydrological regimes and the basic principles relating to hydrology to aquatic ecosystems and the condition of aquatic environments alongside theory and methodologies for the assessment of aquatic and river ecosystem health, and principles and practical tools for implementing riparian restoration projects across a range of aquatic ecosystems. • Goals, objectives and principles of water planning and water resource economics and economic concepts pertinent to the integrated water management and planning including economic and social impact analyses, risk assessment including adaptation for climate change impact, water security for consumptive use, environmental allocations and methods for integrating economic, social, legal and environmental perspectives in water planning against a background of uncertainty and change. • Qualitative research principles and methods and how they can be applied to inform the design and evaluation of integrated water management projects and programs in isolation or integrated with quantitative research approaches.

- How to design, manage and evaluate research projects for the purposes of achieving integrated water management outcomes.

In addition, graduates of the WASH and Development stream of the Master of Integrated Water Management will have specialised knowledge of:

- Water, energy, livelihood and community development issues and relationships from multiple stakeholders including community members, NGOs, government, academics and state enterprises, and the use of simple participatory rural appraisal tools to critically identify, characterise and explain those relationships.
- Social, environmental, financial and technical principles and approaches to meeting the water supply, sanitation and hygiene needs of people in impoverished communities in developing and emerging economic country contexts.

In addition, graduates of the Urban stream of the Master of Integrated Water Management will have a specialised knowledge of:

- The interplay between society, technology and urban design in terms of water security, water resource efficiency, waterway health, flood mitigation, public health and amenity and how these multiple objectives might be achieved through the management of socio-technical pathways for the delivery of Water Sensitive City principles.
- Frameworks, tools and technologies for analysing urban areas as systems with inputs and outputs (as having an urban metabolism) and the strengths, weaknesses and opportunities of urban metabolism and more broadly resource efficiency as frameworks for informing the strategic planning and management of urban sustainability

In addition, graduates of the Water, Land and People stream of the Master of Integrated Water Management will have a specialised knowledge of:

- The main challenges and opportunities for managing water in water scarce agricultural landscapes including knowledge of the positive and negative ecological, social and economic impacts of agricultural water use, along with key tools and techniques to help harmonise agricultural systems within their landscape whilst maintaining food security.
- Participatory methods and evaluation frameworks and social science concepts and their application to integrate different stakeholder perspectives and knowledge systems, including Indigenous and cross-cultural dimensions; conflict management and negotiation; as well as evaluation methodologies, especially for social and process evaluation.

SKILLS

Graduates of a Masters Degree (Coursework) will have:

- cognitive skills to demonstrate mastery of theoretical knowledge and to reflect critically on theory and professional practice or scholarship
- cognitive, technical and creative skills to investigate, analyse and synthesise complex information, problems, concepts and theories and to apply established theories to different bodies of knowledge or practice
- cognitive, technical and creative skills to generate and evaluate complex ideas and concepts at an abstract level
- communication and technical research skills to justify and interpret theoretical propositions, methodologies, conclusions and professional decisions to specialist and non-specialist audiences
- technical and communication skills to design, evaluate, implement, analyse and theorise about developments that contribute to professional practice or scholarship

Graduates of the Master of Integrated Water Management have:

- Cognitive and technical skills 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.
- Communication skills to collaborate and communicate for better cross-sectoral, trans-disciplinary and multi-stakeholder outcomes.
- Cognitive, technical and creative skills to analyse situations systemically and critically for the purpose of designing and delivering more effective and informed integrated water management solutions.

APPLICATION OF KNOWLEDGE & SKILLS

Graduates of a Masters Degree (Coursework) will demonstrate the application of knowledge & skills:

- with creativity and initiative to new situations in professional practice and/or for further learning
- with high level personal autonomy and accountability
- to plan and execute a substantial research-based project, capstone experience and/or piece of scholarship

Graduates of the Master of Integrated Water Management will demonstrate the application of knowledge and skills to :

- Think critically, creatively and ethically to address complex water management and sustainable development challenges.
- Demonstrate independent, autonomous and collaborative, team working skills.
- Plan and execute a significant research based capstone project on integrated water management.
- 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.
- Apply the principles and methods of integrated water management to achieve sustainable development outcomes.