



International Centre of Excellence in  
Water Resources Management

## ICE WaRM Information Night

### Postgraduate Studies in Water Resources Management

Master of Water Resources Management  
Graduate Diploma in Water Resources Management  
Graduate Certificate in Water Resources Management



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## Schedule

4:45 – 5:10

Welcome and Introductions  
ICE WaRM – What do we do?  
Programme Overview

5:10 – 5:30

Questions

5:30 – 6:00

Refreshments



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# Welcome and Introductions



ICE WaRM Team:

**Ms Angela Murray**  
Manager Education Services

**Ms Kimberley Darley**  
Education Services Coordinator



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# Welcome and Introductions



**University Program Directors (SA)**

**University of Adelaide: A/Prof. David Walker**

**University of South Australia: Professor Simon Beecham**

**Flinders University of South Australia: Professor Craig Simmons**



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## ICE WaRM - What do we do?



- ICE WaRM provides a national focus and international gateway to Australia's education, training and research expertise in water.
- ICE WaRM facilitates collaboration in water-related research, education and training opportunities for international (and national) scholars wanting to advance their careers, and meeting the needs of their water management organisations.



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## ICE WaRM Shareholders



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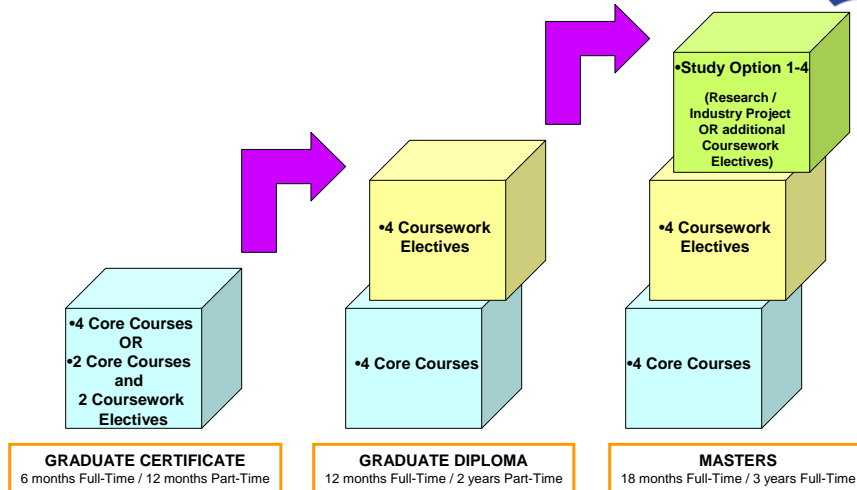
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# Supporters and Associates



# Programme Overview

## Articulation of the Nested Masters Programme



# Programme Overview

## Entry Requirements



### GRADUATE CERTIFICATE

6 months Full-Time / 12 months Part-Time

•3 year undergraduate degree in a recommended field\* (Australian or equivalent) OR

•Extensive experience in the water industry\*\*

Professionals with extensive experience working in the water industry who do not meet the academic entry requirements may be eligible for entry to the [Graduate Certificate in Water Resources Management](#).

\*Engineering and Science are considered recommended fields.  
 \*\*Relevant experience will need to be demonstrated to an appropriate level and will be assessed at the discretion of the Program Director.  
 It is assumed that all applicants will have a demonstrated background in mathematics (i.e. at least equivalent to Year 12 mathematics).

### GRADUATE DIPLOMA

12 months Full-Time / 2 years Part-Time

•3 year undergraduate degree plus honours in a recommended field\* (Australian or equivalent) OR

•4 year undergraduate degree in a recommended field\* (Australian or equivalent) with relevant experience\*\* OR

•4 year undergraduate degree plus honours in a recommended field\* (Australian or equivalent)

### MASTERS

18 months Full-Time / 3 years Full-Time

•3 year undergraduate degree plus honours in a recommended field\* (Australian or equivalent) OR

•4 year undergraduate degree in a recommended field\* (Australian or equivalent) with relevant experience\*\* OR

•4 year undergraduate degree plus honours in a recommended field\* (Australian or equivalent)



# Programme Overview

## Graduate Certificate in Water Resources Management



<b>1. Complete the following 4 core courses:</b>	
<b>Global Water Systems I (Natural Water Cycle)</b> Semester 2	<b>Global Water Systems II (Engineered Water Cycle)</b> Semester 1
<b>Water Resources and Society</b> Semester 2	<b>Water Resources Planning and Management</b> Semester 1

For more details on the Graduate Certificate, go to [www.icewarm.com.au](http://www.icewarm.com.au), "Programmes", "Education" and "Graduate Certificate in WRM".

Note: Students studying the programme full-time have the option of choosing 2 core courses and 2 coursework electives with the approval of the Programme Director.



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# Programme Overview

## Graduate Diploma in Water Resources Management



<b>1. Complete the following 4 core courses:</b>	
Global Water Systems I (Natural Water Cycle) Semester 2	Global Water Systems II (Engineered Water Cycle) Semester 1
Water Resources and Society Semester 2	Water Resources Planning and Management Semester 1



<b>2. Complete 4 coursework electives, at least 3 courses from one stream (streams listed below):</b>		
Stream 1	Stream 2	Stream 3
Ecosystem and Catchment Management	Management of Water Infrastructure	Water Quality and Treatment
Stream 4	Stream 5	
Groundwater Hydrology/Hydrogeology	Irrigation	Unstreamed Electives

<<Graduate Certificate Exit

On successful completion of the Graduate Certificate, students may articulate up to the Graduate Diploma.

For more details on the Graduate Diploma, go to [www.icewarm.com.au](http://www.icewarm.com.au) and "Programmes", "Education" and "Graduate Diploma in WRM".



# Programme Overview

## Master of Water Resources Management



<b>1. Complete the following 4 core courses:</b>	
Global Water Systems I (Natural Water Cycle) Semester 2	Global Water Systems II (Engineered Water Cycle) Semester 1
Water Resources and Society Semester 2	Water Resources Planning and Management Semester 1

<<Graduate Certificate Exit



<b>2. Complete 4 coursework electives, at least 3 courses from one stream (streams listed below):</b>		
Stream 1 Ecosystem and Catchment Management	Stream 2 Management of Water Infrastructure	Stream 3 Water Quality and Treatment
Stream 4 Groundwater Hydrology/Hydrogeology	Stream 5 Irrigation	Unstreamed Electives

<<Graduate Diploma Exit

On successful completion of the Graduate Diploma, students may articulate up to the Masters.

<b>3. Choose one of the following Masters level Study Options:</b> <small>* If you select Study Option 3, you are required to complete a Research Methods course from your 'home institution'.</small>	
<b>STUDY OPTION 1</b> •4 additional coursework electives from any stream	<b>STUDY OPTION 2</b> •2 additional coursework electives from any stream AND •Minor Industry Project
<b>STUDY OPTION 3</b> •Research Project*	<b>STUDY OPTION 4</b> •Major Industry Project

<<Masters Completion

For more details on the Masters, go to [www.icewarm.com.au](http://www.icewarm.com.au) and "Programmes", "Education" and "Master of WRM".

# Programme Overview

## Master of Water Resources Management



How do I select my “home institution” and “stream specialisation”?

University	Stream 1 Ecosystem and Catchment Management	Stream 2 Management of Water Infrastructure	Stream 3 Water Quality and Treatment	Stream 4 Groundwater Hydrology/ Hydrogeology	Stream 5 Irrigation*
University of Adelaide	✓	✓	✓		
University of South Australia		✓	✓		✓
Flinders University of South Australia				✓	
Deakin University	✓	✓	✓		
Central Queensland University		✓			

For more information on the programme, streams and courses, or to download the brochures and timetable, see [www.icewarm.com.au](http://www.icewarm.com.au)

\*Irrigation courses are taught externally by Charles Sturt University which is not a partner university, but is a teaching institution.

# Programme Overview

## Flexible Study Options



The programmes are flexible to accommodate those working full-time or even working interstate or overseas (ie. on a rotation or placement)

### Part-Time and Full-time Study

Students can choose to enrol in programmes in part time study mode. The Masters programme would take an average of 3 years if taken part-time or 1.5 years full-time; Graduate Diploma an average of 2 years part-time or 1 year full-time; and Graduate Certificate an average of 1 year part-time or 0.5 years full-time.

### Flexible Delivery Modes

The core courses and many coursework electives are offered flexibly for those working full-time where time constraints apply. Aside from semester mode (weekly) lectures, the flexible delivery options include:

#### \* Distance/Online courses

Students work at their own pace at any location, completing tasks and assignments online and accessing a portal to correspond with the lecturer and students.  
- Deakin University, University of South Australia and Central Queensland University offer distance courses.

#### \* Intensive (block-mode) courses

Students attend a 3-5 full day seminar and complete tasks and assignments online during the semester.  
- Deakin University, University of South Australia, University of Adelaide and Flinders University offer intensive courses.



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To register your interest or make an enquiry about distance or intensive courses, email [study@icewarm.com.au](mailto:study@icewarm.com.au)



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# Programme Overview

## Core Course Delivery Modes



From Semester 2 2008, ICE WaRM will be offering the core courses via distance mode.  
Intensive mode will also be available but is subject to numbers.

Core Course Delivery Mode	Description
<b>Semester (Internal)</b>	Access Grid is a high-tech interactive internet conferencing teaching medium whereby all five partner universities join a virtual classroom, face to face in real-time. Course materials and lecturer and student interaction are supported via a secure student portal.
<b>Intensive (Internal and External)</b>  <small>*Students should register their interest to ICE WaRM by emailing <a href="mailto:study@icewarm.com.au">study@icewarm.com.au</a></small>	Intensive delivery comprises 3-5 days of teaching plus assessment, and meets the needs of working professionals.
<b>Distance/Online (External)</b>  <small>*from Semester 2, 2008. Students should register their interest to ICE WaRM by emailing <a href="mailto:study@icewarm.com.au">study@icewarm.com.au</a></small>	Delivery allows full flexibility for the student to study any time, anywhere. Course materials and lecturer and student interaction are supported via a secure student portal.



# Programme Overview



## Other Notes:

### Programme Rules:

- Students must complete the core courses and Research/Industry Project at their 'home institution'
- At least 50% of courses must be completed at the home institution (students can choose coursework electives from other partner universities)

### Industry Project:

Those working in the water industry who undertake the Industry Project for their Study Option may be able to do it in relation to their work.

### Industry Reference Group (SA and Vic)

ICE WaRM coordinates Industry Reference Groups in South Australia, Victoria and soon Queensland that consist of members from universities, the water industry and other related associations, whose role is to review programme and course content and contribute to the improvement and development of the programmes. This assists in ensuring that the programmes and courses are in line with industry needs.



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# Programme Overview



## Fees and Costs

Whilst programme and course fees vary between university providers, the approximate programme/course fees in 2008 are as follows:

Programme	Total Programme Fee (Approx)	Course fee (Approx)
Master of WRM	\$25,500	\$2,125
Graduate Diploma in WRM	\$17,000	\$2,125
Graduate Certificate in WRM	\$8,500	\$2,125

The programmes are full-fee paying.

To check individual university programme fees, go to their website or contact ICE WaRM [study@icewarm.com.au](mailto:study@icewarm.com.au)



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# Programme Overview



## Application Procedures

### Application Deadlines

Semester 1	Semester 2
Late Jan – Late Feb	Late June – Late July

Prior to applying, it is recommended you contact ICE WaRM to discuss your prospective "home institution", stream specialisation and courses.

**PREPARATION** – You need to provide an original or certified copy of your undergraduate academic transcripts to ICE WaRM (this helps speed up the process), together with a completed application form. Some universities offer an online application process, see university websites for details on how to apply.



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# Career Pathways

Examples of potential career paths on completion of the programmes



## Academic Backgrounds:

- Science (General)
- Science (Physics/Maths)
- Science (Microbiology)
- Science (Geography)
- Environmental Science
- Environmental Health
- Environmental Management
- Science (Marine Ecology)
- Civil Engineering (General)
- Civil Engineering (Construction)
- Engineering (General)
- Chemical Engineering
- Mechanical Engineering
- Environmental Engineering
- Science (Hydrology)
- Science (Agriculture)

## Streams:

<p><b>Stream 1</b>  <b>Ecosystem and Catchment Management</b></p> <ul style="list-style-type: none"> <li>•Ecosystems Modelling</li> <li>•Integrated Catchment Management</li> <li>•Environmental Risk Management</li> </ul>
<p><b>Stream 2</b>  <b>Management of Water Infrastructure</b></p> <ul style="list-style-type: none"> <li>•Water Resources Engineering</li> <li>•Environmental Modelling, Management &amp; Design</li> <li>•Geographical Information Systems</li> <li>•Strategic Asset Management</li> <li>•Facilities Program Management</li> </ul>
<p><b>Stream 3</b>  <b>Water Quality and Treatment</b></p> <ul style="list-style-type: none"> <li>•Water &amp; Wastewater Treatment Processes</li> <li>•Water Reclamation &amp; Reuse</li> <li>•Environmental Systems Design</li> <li>•Water Quality Modelling &amp; Management</li> <li>•Design of Flood &amp; Drainage Systems</li> </ul>
<p><b>Stream 4</b>  <b>Groundwater Hydrology/Hydrogeology</b></p> <ul style="list-style-type: none"> <li>•Hydrochemistry</li> <li>•Geological &amp; Sedimentary Processes</li> <li>•Groundwater &amp; Soil Hydrology</li> <li>•Surface Water Hydrology</li> </ul>
<p><b>Stream 5</b>  <b>Irrigation</b></p> <ul style="list-style-type: none"> <li>•Irrigation Factors, Practice &amp; Management</li> </ul>

## Potential Positions:

- Catchment Care Officer
- Catchment Liaison Officer
- Catchment Project Officer
- Research Officer
- Natural Resource Project Officer
- Watershed Coordinator
- Senior Project / Program Officer
- Water Resources Planner
- Environmental Resources Planner
- Policy Analyst
- Civil Engineer
- Public Utility Rate Analyst
- Water Quality Engineer / Specialist
- Environmental Coordinator
- Water Quality
- Solid Waste Engineer
- Water and Wastewater Treatment Manager
- River Health Officer (Water Quality)
- Salinity Management Officer
- Hydrologist
- Hydrogeologist
- Data Analyst – Hydrology
- Development Officer – Hydrology
- Hydrology Modeller
- Groundwater Communication Officer
- Agronomist
- Technical Officer
- Extension Specialist
- Animal Production Advisory Officer
- Farm Manager



# Contacts

## University Contacts



University	Programme Director / Course Coordinator	Administrative Staff Contact
University of Adelaide	A/Prof. David Walker 8303 4319 <a href="mailto:david.walker@adelaide.edu.au">david.walker@adelaide.edu.au</a>	Ms Leanne Marshall 8303 5030 <a href="mailto:leanne.marshall@adelaide.edu.au">leanne.marshall@adelaide.edu.au</a>
University of South Australia	Professor Simon Beecham 8302 5141 <a href="mailto:simon.beecham@unisa.edu.au">simon.beecham@unisa.edu.au</a>	Ms Jayne Kwiatkowski 8302 5293 <a href="mailto:jayne.kwiatkowski@unisa.edu.au">jayne.kwiatkowski@unisa.edu.au</a>
Flinders University of South Australia	Professor Craig Simmons 8201 2348 <a href="mailto:craig.simmons@flinders.edu.au">craig.simmons@flinders.edu.au</a>	Ms Samantha Hammer 8201 5676 <a href="mailto:samantha.hammer@flinders.edu.au">samantha.hammer@flinders.edu.au</a>
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Central Queensland University	Dr Larelle Fabbro (07) 4923 2181 <a href="mailto:l.fabbro@cqu.edu.au">l.fabbro@cqu.edu.au</a>	Ms Leanne White (07) 4923 2738 <a href="mailto:l.white@cqu.edu.au">l.white@cqu.edu.au</a>



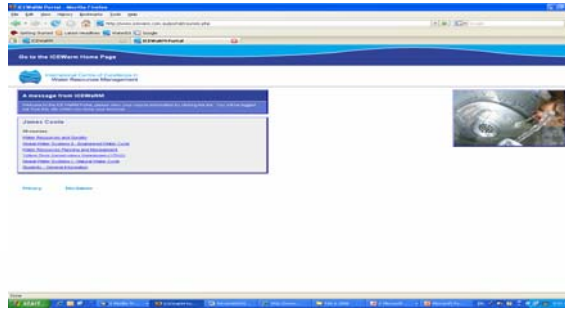
# ICE WaRM Student Portal



## Demonstration

The ICE WaRM portal provides a central point of reference for students to access core course materials, communicate with the lecturer and other students, post assignments online, engage in online discussion forums, and keep up to date with general news and events.

[www.icewarm.com.au/portal](http://www.icewarm.com.au/portal)



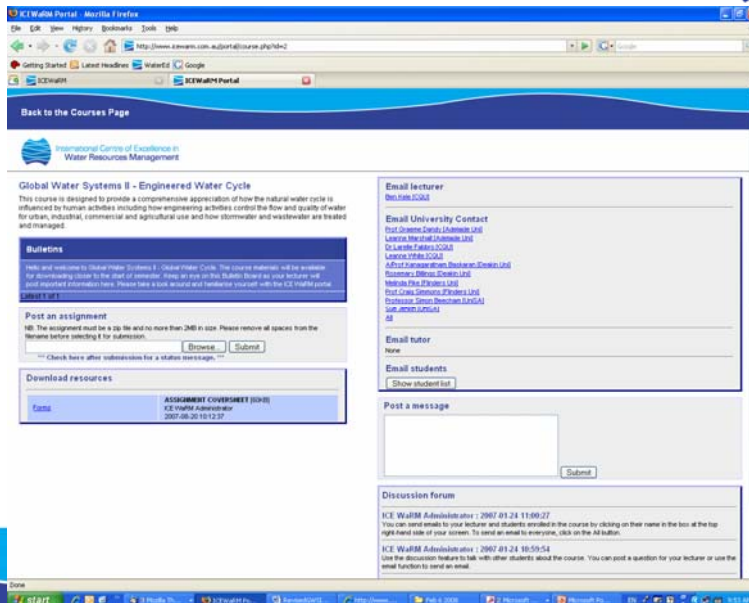
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# ICE WaRM Student Portal



Demonstration [www.icewarm.com.au/portal](http://www.icewarm.com.au/portal)



# Contacts



## ICE WaRM Contacts

**Ms Kimberley Darley: Education Services Coordinator**

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Phone: 8236 5213 or Fax: 8236 5236

**Ms Angela Murray: Manager Education Services**

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[www.icewarm.com.au](http://www.icewarm.com.au)



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# Thank you



# Question Time

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