

WATR7002 - Water, sustainability and development (2 units)

Foundation module

Course description

In this course, students' knowledge of basic integrated water resource management issues gained in WATR7001 will be extended, with a specific focus on the significance of developing sustainable water practices, particularly in developing countries and in countries in transition.

Course introduction

This module introduces students to some of the key perspectives on water and sustainable development in developing countries. It examines the elements and background to the so-called world water crisis and analyses current international development thinking about sustainable development and its application to water and water resources. The module aims to foster an analytical and critical perspective on water and development, through critical dimensions such as livelihoods and poverty, water supply and sanitation in cities, gender, community participation and water as a human right.

Course delivery

- **Full-time** (on-campus) students, including international students, are required to enrol in the internal offering in Semester 1. Semester 1 begins with a three-day field trip to [North Stradbroke Island](#).

- **Part-time** (external) students are required to enrol in this course in Semester 3. They are required to attend a five-day intensive workshop in Brisbane, at the beginning of the semester, where two days of the course will be taught face-to-face and the remainder of the course will be taught externally on-line.

Assumed background

This is a postgraduate course in general water science offered as part of the International Water Centre Master of Integrated Water Management. Students are expected to have basic background knowledge through undergraduate science or engineering programs, however this is not essential.

Learning objectives

On completing this course students will be able to apply a range of analytical and critical perspectives on water and sustainable development in developing countries, and understand and be able to implement a range of methods for community participation.

After successfully completing this course, students should be able to:

- explain the theoretical underpinnings and key principles of sustainable development and its application to water resources;
- explain the key aspects and causes of the 'global water crisis', and its implications for development;
- employ a range of analytical frameworks for understanding the links between water, livelihoods, poverty, and gender;
- explain the theoretical and practical justifications for community participation in water resources development, using examples and case studies;
- explain and have a critical appreciation of the implications of a human rights approach to water resources development;
- demonstrate the use of personal reflection and social learning to improve their own ability, and their ability as part of a team, to analyse and explore integrated solutions to practical water planning and management problems exemplified in case studies presented in this course;
- show how relevant theories, integration tools and decision support systems presented in this course can inform the analysis of case studies and help to identify practical, integrated solutions to water planning and management problems.





IWC Graduates receive a co-badged degree from four leading Australian universities, ranked amongst the top 1% of the best universities in the world for teaching and research. (QS Global Ranking)

Florent Vetillard – France

When I go back to Europe, I want to apply my new understanding of the multi-dimensional nature of water challenges to the human and environmental crises that water issues are shaping.



Field trips

Students begin the Foundation semester with a three-day field trip to [North Stradbroke Island](#). The cost of the trip (including transport from Brisbane, accommodation and meals) is included in the tuition fees.

For a complete list of field trips that students undertake during the Foundation semester, please refer back to “Field trips” on page 4 of this syllabus or visit [IWC website](#).

Teaching staff

Course Coordinator: [Dr Steven Pratt](#) (The University of Queensland)

Lead Lecturer: [Dr Bruce Missingham](#) (Monash University)

Problem-Based Learning (PBL) projects

PBL projects and field trips will run through the semester, comprising roughly 50% of the total contact time and assessment weight. These enable students to develop skills that complement the content delivered in the four co-requisite courses: WATR7000, WATR7001, WATR7002, WATR7003. Please see other co-requisite course profiles to cross-reference.

The PBL stream for the Foundation semester comprises an individual project and a group project conducted in multidisciplinary teams (full-time students complete two PBL projects per semester while part-time students complete one PBL per semester):

- **PBL1:** Situation analysis and critique of an existing water management project or program (Group project)
- **PBL2:** Design of a project proposal to address a real-world water management issue from an Integrated Water Management perspective (Individual project)

A significant amount of project time will be spent exploring the case study material with respect to the topic content of the Water, sustainability and development course. Students will be provided with an introduction to the case study catchments from the sustainable development perspective.



Photos of students on a field trip to Brisbane River.