

Student funding available

Water Management

MSc, PgDip, PgCert *Full and part-time*

Options in

- Advanced Irrigation
- Community Water and Sanitation
- Environmental Water Management
- Water & Society
- Water for Sustainable Agricultural Development

Water is essential to life and is arguably our most precious resource. Without appropriate water management, whether in agriculture, industry or community development, we run the risk of overexploitation and contamination of this most essential commodity. Successful water management depends on the development of integrated solutions. This requires social, political, institutional, legal and financial, as well as scientific, technical and environmental awareness and understanding.

The MSc Water Management has been designed in collaboration with employers to provide the skills and knowledge required to assess, plan, execute and implement strategies for the sustainable management of water in natural, semi-natural and man-made environments.

Focus on your career

Successful completion of the course offers graduates a broad network of global contacts, increased opportunities for individual specialism in their chosen career, and the capability to make an immediate and real contribution to improved water management. Graduates go on to a wide range of careers with consultants, environmental regulators, non-government organisations (NGOs), government ministries, water companies and local authorities. Opportunities are diverse and international, with graduates progressing to senior positions in their chosen sector.

Benefit from our reputation

Cranfield University has an established international reputation for its expertise in sustainable natural resource management. We either lead or collaborate as partners on research and consulting projects, both nationally and internationally. Our research focuses on providing practical and cost-effective solutions to the challenges of managing water for users, consumers and the environment sustainably. Connections allied to this qualification will increase your employability.

Benefit from our expertise

You will be taught by internationally leading academics and practitioners. This will ensure you are aware of cutting-edge tools, techniques and innovations. The course is directed by an industrial advisory committee comprising senior representatives from leading environmental organisations, consultants, water companies and NGOs. This means the skills and knowledge you acquire are relevant to employer requirements.

Benefit from practical experience in your work-based projects

Industrially oriented project work enables you to assimilate the knowledge and skills gained from the taught element of the course and put these into real-world practise while gaining transferable skills in project management, team-work and independent research. Future employers value this experience. Part-time students have the benefit of addressing their employer's real business problems supported by our academic supervision.



Accredited by



Water Management options

Advanced Irrigation

With pressure growing on water resources, and increasing demand for food production and an improved environment, efficient irrigation has a major role to play worldwide. This course provides the appropriate science and technology background required to manage water effectively and efficiently whether for agriculture, horticulture, plantations, amenity or sports turf.

The common themes are the scientific assessment of plant water requirements and water resources, and the design and management of efficient irrigation systems.

"Studying the Advanced Irrigation option of the Water Management MSc was a greatly enjoyable and enriching experience for me. Applying the knowledge I gained during the course has quickly become an integral part in my career."

Markus Möelle, Full-time MSc student
Now working on small-scale drip irrigation in West Africa

Community Water and Sanitation

Although much progress has been made over the last three decades, still more than one billion people lack access to a safe, reliable and affordable water supply, and more than twice that number still lack access to basic sanitation. This course provides the essential skills and knowledge required to plan and implement, with communities, water supply and sanitation projects and programmes worldwide, particularly in the less developed countries.

"This option of the MSc Water Management has provided me with a solid foundation for my future endeavours. I am now working as an independent researcher and consultant building the capacity and know-how of communities, governments, NGOs, and international agencies in the water and sanitation sector."

Kerstin Danert, Full-time MSc student

Environmental Water Management

Human effects on the quality and quantity of water represent the single greatest threat to species, habitats and ecosystem functions around the world owing to their fundamental dependence on water.

This option provides the essential skills and knowledge required to solve complex problems involving human water requirements, i.e. households, agriculture, industry and recreation, and the natural environment, including vulnerable wildlife and their habitats, at different scales. It addresses issues related to water resources and water quality management, habitat creation and management, and the economic, policy and legal environment in which water managers' work.

"Cranfield University has opened my eyes on many water issues which are incredibly relevant nowadays, and has enabled me to grasp the need for holistic and integrated approach to water management."

Tanguy De Bock, Full-time MSc student
International Center for Research in Agroforestry, Kenya

Water and Society

There is a growing demand at local, national and international levels, for technically-competent managers in the water sector with an appreciation of social, legal and organisational factors in water management.

This option provides the essential skills and knowledge to work in a number of areas across the water sector such as managing multi-disciplinary teams and assessing social, economic and legal factors which drive change.

"The course covered many aspects of water management that get overlooked or are assumed to the remit of ...well, somebody else!"

David Bonnardeaux, Full-time MSc student
Environment Sector Unit, World Bank, Washington, USA

Water for Sustainable Agricultural Development

Globally over 70% of all available water is used for irrigation. Increasing populations, and higher standards of living, in the context of changing global climates, are increasing the pressure on water resources in many parts of the world. Meanwhile, poor water management has led to a reduction in the world's irrigated lands. In Europe particularly, agricultural water use is often in conflict with the environmental functions of water, which can lead to disagreements between interest groups, and political debate. In the context of the EU Water Framework Directive, agricultural water users increasingly need to demonstrate wise and sustainable use of water.

Sustainable water management in these situations demands an understanding of the water requirements for agriculture (including the underlying science), the technologies for efficient water use at scales ranging from the field to the basin, and the socio-political and institutional context.

This option helps to address the growing demand at local, national and international levels for technically competent managers able to address public perception and participation in the water sector in regions where agriculture is a significant user of water resources. It provides the skills and knowledge of the science, technology and sociology of water management to contribute to sustainable water management worldwide.

"Water for food is the major consumer worldwide, and not trivial in the UK because the peak agricultural demands will usually coincide neatly with minimum availability. Elsewhere sustaining food production in the face of competition from other sectors is a major challenge with substantial related implications for rural incomes."

Professor Chris Perry
Formerly Deputy Director General of the International Water Management Institute (IWMI), Sri Lanka



The modules

The table below identifies the modules associated with each of the Water Management options. Detailed information on each module is available on our web site.

Taught modules	Advanced Irrigation	Community Water & Sanitation	Environmental Water Management	Water & Society	Water for Sustainable Agricultural Development
Communities and Development		●			
Economics of Environment and Resource Management	●		●	●	●
Emergency Water Supply and Environmental Sanitation		●			
Flood Risk Management			●		
GIS and Social Data Management		●			
Health, Sanitation and Wastewater Management		●			
Managing and Financing World Water and Wastewater		●		●	
Managing Water for Agriculture	●				●
Modelling Hydrological Systems			●		
Social and Economic Aspects of Development		●			
Soil Plant Water Management	●				●
Soil Plant Water Relationships	●				●
Soil Science	●		●		
Surface and Groundwater Hydrology	●	●	●	●	●
Water Law				●	●
Water Management	●	●	●	●	●
Water Politics, Globalisation and Climate Change				●	
Water Quality Monitoring			●	●	
Water Source Engineering	●				
World Water and Sanitation Technology				●	●
Wetland Water Management and Water Table Control			●		
Group projects					
Catchment Management and GIS			●	●	
Drinking Water Quality Management		●			
Environmental Management of Rivers			●		
Integrated Basin Management					●
Irrigation Design	●				
Irrigation Management and Evaluation	●				●
Society and Water Policy Evaluation				●	
Watershed Management for Soil Conservation					●
Water Source Engineering		●			

● = Compulsory module for specialisation identified above.

Course details

Duration: Full-time: 1 year.
Part-time: 2-3 years.

Start date: Full-time: October.
Part-time: Throughout the year.

Funding: Natural Environment Research Council (NERC) studentships are available to suitably qualified UK students on the Environmental Water Management option.

Other funding opportunities exist for all options, such as School bursaries. Part-time students are usually sponsored by their employer. For further information please visit: www.cranfield.ac.uk/sas/funding

Entry requirements:

Candidates must possess, or be expected to achieve, a 1st or 2nd class UK Honours degree or equivalent. Other relevant qualifications together with considerable industrial experience may be considered.



Who should apply

- Graduates with science, engineering, geography or related degrees keen to pursue careers in water management
- Graduates currently working in industry keen to extend their qualifications, or to pursue a career change
- Individuals with other qualifications who possess considerable relevant experience

Course overview

The course comprises eight taught modules, group projects and an individual project. The modules include lectures and tutorials, and are assessed through appropriate assignments or exams. There is an emphasis on analysis of real problems, with practical field work to reinforce learning. This provides the 'tools' required for the group and individual projects.

The three elements of the course are assessed as follows:

- Taught modules 40%
- Group projects 20%
- Individual project 40%

For part-time students the group projects may be replaced by individual work-based assignments with their employer organisation.

The full-time course is of 12 months' duration. Part-time students will be expected to undertake the course over a two to three year period. The modular format of the taught element permits a high degree of flexibility of attendance at Cranfield for part-time students who may commence the course at any time during the year.

Alternatively, qualifications of Postgraduate Diploma (PgDip) comprising eight taught modules and the group project, and Postgraduate Certificate (PgCert), comprising six modules selected from any of the options, are available.

Group projects

The group projects are applied multidisciplinary team-based activities. They provide students with the opportunity, whilst working under academic supervision, to take responsibility for a consultancy type project. Success is dependent on the integration of various activities and working within agreed objectives and deadlines.

Individual project

Students select the individual research project in consultation with the Course Director. The individual project provides students with the opportunity to demonstrate their ability to carry out independent research, think and work in an original way, contribute to knowledge, and overcome genuine problems in water management. Many of the projects are supported by external organisations.

SAFAD

On completion of this programme there is an opportunity to gain experience of an international development project through the development charity SAFAD. This charity is the students' own NGO, and has supported development programmes since 1969.

Why Cranfield University

Cranfield is a wholly postgraduate university with an international community and a truly global reputation. Ranked first in the UK for staff to student ratios and with a top five ranking for student employment on graduation, an excellent rating for teaching, and exceptional facilities, Cranfield makes an ideal destination for advancing careers. All courses are designed to meet the training needs of industry and have a strong input from experts in their sector. Our focus is on applied research and developing future managers, engineers, consultants and entrepreneurs.

Contact

For further information and an application form please contact:

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