



Postgraduate
master's courses in

Sustainable water futures

Academic year 2024/25 entry

Advanced Water Management MSc
Water and Sanitation for Development MSc
Water and Wastewater Engineering MSc

Cranfield University

We are the UK's only specialist postgraduate university in technology and management, with longstanding relationships with some of the most prestigious global companies. Our close collaboration with industry, and passion for the areas we operate in, will help your career.

Specialist postgraduate

A research-focused professional community

88%

of our research is world-leading or internationally excellent

Research Excellence Framework (REF) 2021

Over £150 million

of investment in new facilities over the past five years

Top 30
in the world

for Engineering – Mechanical, Aeronautical and Manufacturing
QS World University Rankings by subject, 2023

A professional network of **75,000+** alumni, from 177 countries

5,000+ postgraduate students from **100+ countries**

Six-time winner
Of the prestigious Queen's Anniversary Prize

As we are postgraduate only, we are not listed in league tables that help compare undergraduate universities, such as *The Times World Rankings* and *The Complete University Guide*.

"We have worked with several Cranfield MSc students who have completed their summer thesis using the Upper Wensum Restoration Scheme as subject matter. I find Cranfield students committed and always interested in their investigations. The mix of nationalities generates some fresh and interesting perspectives on issues and solutions. We liked the work done by two MSc students so much that we took them on as graduates!"

Marcus Huband,
Principal Geomorphologist, Atkins

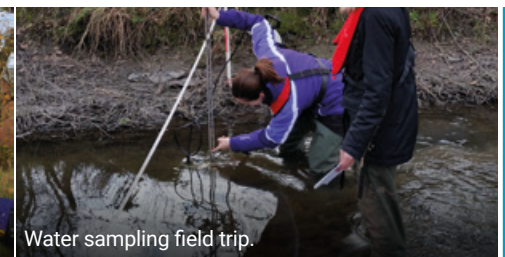


Reasons to study **sustainable water futures** with us

- 1 Projects with impact**
Group and individual projects are supported by external organisations such as the Environment Agency, Natural England, Scottish Water, Yorkshire Water and WaterAid allowing you to address key contemporary issues in the water sector.
- 2 Innovative teaching**
Taught by international academic staff as well as industry practitioners, you will benefit from a variety of teaching practices, including online learning supporting face-to-face lectures and student-led exercises.
- 3 Management skills**
Built around an integrated skills programme that provides you with comprehensive training in project management, commercial awareness, and effective communication.
- 4 Transferable skills**
Through structured course activities, you will gain a range of competencies which will significantly improve your skill set and employability. These include synthesising evidence, problem solving, technical writing and independent learning.
- 5 Networking opportunities**
Our alumni mentoring programme, alongside close links with the International Water Association and the Institute of Water will enable you to build an invaluable network of contacts.
- 6 Outstanding facilities**
Our test and experimental facilities include dedicated laboratories for clean water, fermentation, microbiology, wastewater and water chemistry. The new National Research Facility for Water and Wastewater Treatment is located on campus and we have dedicated labs for the development of point-of-use treatment technologies and advanced sensors.
- 7 Employer-shaped courses**
Regularly scrutinised by advisory panels of leading sector professionals to ensure the course content is relevant and meets the expectations of employers.
- 8 Flexible learning**
All our courses run on a full-time and part-time basis. For part-time students we develop an individual study plan prior to starting the course making an MSc achievable even if you work full-time.



Drilling week practical session.



Water sampling field trip.

Courses in sustainable water futures

Communities around the world face a range of threats to the sustainability and resilience of the water systems which support their lives and livelihoods. Cranfield graduates are at the forefront of developing innovative solutions to problems caused by pollution, climate change, urbanisation, the effects of poverty, and the need to deliver net zero water services and transition to a circular economy. Our postgraduate courses, available both full and part time, provide you with the skills and expertise to address these fundamental global challenges.

For more than 40 years now, Cranfield's Water Science Institute has been delivering high-impact research which advances society's ability to provide water for people, for food, for the environment, and for business. We welcome candidates from a variety of educational backgrounds; from physics, chemistry, biology, chemical and civil engineering, through geography, environmental science or engineering, and maths, to earth sciences and development studies.

The three courses within the sustainable water futures programme will provide you with the applied skills to make a meaningful contribution – whether this is with government, industry, NGOs or pursuing your own vision as an innovator or consultant. We also offer a comprehensive CPD programme of short courses and are happy to talk to organisations about in-house training provision.

Accreditation

All three of our sustainable water futures master's are accredited by the Chartered Institution of Water and Environmental Management (CIWEM).

CIWEM Chartered Institution of
Water and Environmental
Management
Accredited Course



Practical session on wastewater characterisation techniques.



On-site pilot hall facilities.

The water challenges of the 21st century require an integrated approach. Our MSc courses in sustainable water futures provide a mixed learning experience blending theory, practice and fieldwork.

Modules form 40% of the course content, with the group and individual projects making up the other 60%.

This brochure shows the compulsory and (where applicable) some elective modules offered in the 2023-2024 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change so please check the latest information on our website.

A variety of scholarships are available for all sustainable water futures courses. Please refer to individual course website pages for more details.

Advanced Water Management

www.cranfield.ac.uk/awm

MSc, PgDip, PgCert
Full-time/Part-time

You will gain the up-to-date knowledge and skills needed to solve today's complex natural, economic and governance challenges in water management.

Compulsory modules

- Good Ecological Status,
- Surface and Groundwater Hydrology: Processes, Measurement and Modelling,
- Managing Flood and Drought Risks,
- Water in Cities and Catchments.

Water and Sanitation for Development

www.cranfield.ac.uk/wsd

MSc, PgDip, PgCert
Full-time/Part-time

You will leave with the knowledge needed for the planning, implementation and management of sustainable water supply, sanitation and hygiene projects in low-income countries.

Compulsory modules

- Public Health, Hygiene and Sanitation,
- Resilience, Shocks and Emergencies,
- Water Resource Engineering,
- Water, Society and Development.

Water and Wastewater Engineering

www.cranfield.ac.uk/ww

MSc, PgDip, PgCert
Full-time/Part-time

This course equips you with the practical skills needed for the delivery of reliable, safe water supplies as well as improving river and groundwater quality through wastewater treatment.

Compulsory modules

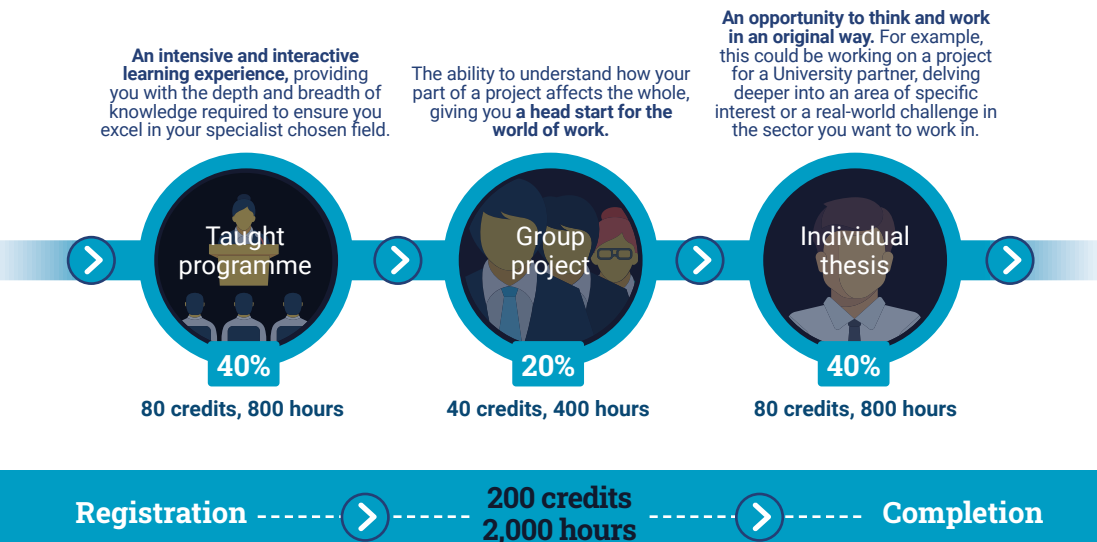
- Science and Engineering Principles in Water and Wastewater Treatment,
- Treatment Processes for Water and Wastewater,
- Water and Wastewater Assets: Lifecycles, Risks and Futures.

Course structure

Our specialist, sector-facing master's programmes are designed and developed in close collaboration with a range of stakeholders. This ensures course content is applied, and directly relevant, to solving real world problems. You will develop the core competencies and skill sets needed to understand and respond to complex challenges across the water sector.

This diagram illustrates the course structure of our full-time master's courses. Please check the course structure online for more detailed information.

Our part-time course is spread over two to three years. The group project is replaced by a dissertation and the individual project is usually undertaken with your employer.



Careers

Cranfield graduates leave with the skills to make an immediate contribution in the international water sector. Typically, our graduates go on to work in the following types of roles and organisations:

Roles:

- Environmental Consultant,
- Head of Water Quality,
- Researcher,
- Risk Scientist,
- Sanitation Specialist,
- WASH Project Manager.

Organisations:

- Artelia,
- Environment Agency,
- Scottish Water,
- Severn Trent Water,
- UNICEF,
- Veolia.

Our network

Cranfield has unrivalled links with pioneering individuals and organisations throughout the professional water community. Our students benefit from our extensive contacts and track record of close collaboration with government agencies, regulators, water service providers, SMEs and NGOs across the water, environment and development sectors. These links provide the courses with external lecturers as well as with group and individual thesis project sponsors.

Advisory panel

Our courses are reviewed each year by a panel of advisors from leading companies and institutions in the sector. This ensures that the skills you acquire are up-to-date and reflect what employers want. Some of the companies represented on our advisory panel include:



Sponsored projects

Cranfield's group project experience is your opportunity to take responsibility for a consultancy-style project delivered for a sponsor, while working under academic supervision. The group and individual thesis projects that you will take as part of your course are often run in collaboration with our partners.

More information about group projects can be seen below and some of our partners are shown on the back cover of this brochure.

- Working with **Oxfam GB** to choose the right sanitation technologies for refugee camps.
- Working with **Australian Aid** to determine successes in community-managed rural water supplies.
- Exploring options for recovering value from the **Kazuba Waterless Toilet System**.
- Assessing alternative processes for upgrading wastewater treatment plants for **Severn Trent Water**.
- Evaluating the trade-offs between agricultural abstraction and ecological impacts for the **UK Irrigation Association, Environment Agency and NFU**.
- Designing nature-based solutions for combine sewer overflow (CSO) treatment.

Academic staff

You will be taught by a wide range of subject specialists at Cranfield and from outside the University, who draw on their research and industrial expertise to provide stimulating and relevant input to your learning experience. Below is a selection of our current academic staff.



Dr May Sule, Lecturer in Water, Sanitation and Hygiene

May is an Environmental Engineer specialising in the interactions between water, sanitation, hygiene and health (WASH) systems. Her research focuses on the technical and non-technical (socio-economic) aspects of sustainable WASH as well as integrating health into water security methodologies for improving the delivery of safe drinking water and climate resilient water supplies.

www.cranfield.ac.uk/msule



Professor Bruce Jefferson, Professor of Water Engineering

Bruce's current activities involve work on resource recovery, anaerobic sewage treatment, low energy wastewater processes for nutrient removal, algae and advanced oxidation processes.

www.cranfield.ac.uk/bjefferson



Dr Andrea Momblanch, Lecturer in Water Systems Modelling

Andrea's research deploys expertise in water management modelling, including water quantity, water quality and biotic components, to understand the trade-off between human and environmental water uses, and to discover new ways to reconcile and balance competing demands.

www.cranfield.ac.uk/amomblanch



Professor Ian Holman, Professor of Integrated Land and Water Management

Ian's research focuses on understanding the effects of interactions between land management, soil properties and weather on soil degradation, agricultural yields and hydrological response, under current and future conditions.

www.cranfield.ac.uk/iholman



Dr Yadira Bajon Fernandez, Senior Lecturer in Bioresources Science and Engineering

Yadira's core research area is in bioresources treatment, including anaerobic digestion of waste materials and municipal sludge, anaerobic digestion pre-treatment technologies and biosolids to land. Yadira also does extensive work in wastewater treatment, including low energy technologies for small and medium wastewater treatment plants.

www.cranfield.ac.uk/ybajonfernandez



Dr Heather Smith, Senior Lecturer in Water Governance

Heather's research explores the governance, institutions and societal dimensions of the water and wastewater services sector. Recent projects have examined the emergence of new technologies and approaches in the sector, such as water recycling and resource recovery, and how these fit with existing governance frameworks and the perceptions of end users.

www.cranfield.ac.uk/hsmith

Key facts and statistics

Course information



Full-time
One year



Part-time
Up to three years

See page 6.



Start date
October



MSc/PgDip/PgCert



Fees

Please see the individual course pages on our website for fee information and full-time or part-time options. Terms and conditions apply.

See www.cranfield.ac.uk/fees

Cohort profile*



Geographic spread
46% UK
54% International



Age range
20-59 years



Average cohort size
18



48% Female
52% Male

*These figures give an indication of the course make-up at registration across Water for the entry 2022-2023.

"I chose Cranfield because it offers a very specific water and wastewater master's course, it has strong industry links and of course because of its valuable reputation among water companies."

Walter Pillajo Corella,
(Water and Wastewater Engineering MSc 2022)



More than a degree with the Cranfield Enhance programme

Cranfield graduates are valued for their distinctive skills and capabilities. We have developed these programmes to complement and enhance what you learn on your chosen qualification. On the Cranfield Enhance programme, you will be able to earn 'digital badges' in areas such as Employability, Entrepreneurship, Sustainability and Outreach to showcase your new skills to prospective employers.

Read more at www.cranfield.ac.uk/enhance

Financing your studies

If you need advice on funding your course or living costs, we can provide information and a range of online tools to help you put together the funding package you need.

There is more information on our website:
www.cranfield.ac.uk/funding

How to apply

Read more about our entry requirements and how to apply:
www.cranfield.ac.uk/apply



Life at Cranfield

A welcoming, professional campus community.

Located just over an hour from London in the English countryside, Cranfield's campus environment supports close, working relationships between our multinational postgraduate students and academic and industry experts.

www.cranfield.ac.uk/visit



Have a look at some of our facilities in this virtual experience:

virtualexperience.cranfield.ac.uk



On-campus wastewater treatment research facility.

Cranfield University works with over **1,500** organisations in over 40 countries

These organisations include:



Related programmes:

Agrifood - www.cranfield.ac.uk/agrifood,
Design - www.cranfield.ac.uk/designthinking,
Energy - www.cranfield.ac.uk/energy,
Environment - www.cranfield.ac.uk/environment.

For a full list of Cranfield courses, please see our prospectus and website.

www.cranfield.ac.uk/water

Cranfield University
Cranfield
MK43 0AL, UK

T: +44 (0)1234 758082
E: studywater@cranfield.ac.uk



@cranfielduni



Cranfield University



@cranfielduni



/cranfielduni



/cranfielduni



blogs.cranfield.ac.uk