

Water and Waste Infrastructure and Services Engineered for Resilience (Water WISER) PhD

Academic Year 2023/24

Awarding body	Loughborough University
Teaching Institution (if different)	University of Leeds, Cranfield University
Programme title	Water and Waste Infrastructure and Services Engineered for Resilience (WaterWISER)
Primary award	Doctor of Philosophy (PhD) or Master of Philosophy (MPhil)
Mode of Study	Full-time and Part-time
Programme length	Full-time: 4 years Part-time: 8 years The duration of the taught component is up to two years from registration (Full-time)
Owning school/department	School of Architecture, Building and Civil Engineering
Campus	Loughborough
Admissions criteria	https://www.lboro.ac.uk/study/postgraduate/research-degrees/
Date at which the programme specification was published	

Accreditation

None

Programme Aims

This four-year programme will train graduates to generate new knowledge about sustainable water, sanitation and waste management infrastructure and services for the poorest and most marginal people in the world. It will be delivered through unique, robust, transdisciplinary cohort-based training and support during a four-year cycle which transforms students into leaders.

The focus of the programme is on developing the capacity to transcend traditional disciplinary boundaries, movement between disciplines will be encouraged. The programme aims to equip students with the skills to design and carry out a research project, resulting in a thesis which will provide a contribution to knowledge and contain original work worthy of publication.

The programme will provide training in research methods appropriate to water and waste infrastructure and services, and allow students to become well acquainted with the general field of knowledge to which their research project relates. PhD research will be co-designed with and supported by industry partners and implementing agencies to ensure relevance and impact, with studentship funding including provision for up to 6 months in country placement or fieldwork.

Benchmarks

Relevant subject benchmark statements and other external and internal reference points used to inform programme outcomes:

The Frameworks for Higher Education Qualifications of UK Degrees
Doctoral Degree Characteristics Statement (QAA)
Credit Level Descriptors for Higher Education (SEEC)
Loughborough University Quality Reviews
Research Council Annual Reviews

Learning Outcomes

Knowledge and Understanding

At the completion of this course students will be expected to demonstrate competency and knowledge in all core engineering specialisations and a deep knowledge and understanding of at least one of these; competency and knowledge of at least 3 technical and research skill areas; and mastery of a range of professional skills including: problem solving, communication, data driven decision making, collaboration, partnerships, co-production, planning, use of ICT, data collection, data analysis, mentoring, conflict resolution, ethics in research and practice, research commercialization and securitization, entrepreneurship, marketing.

Skills and other attributes

Subject-specific cognitive skills:

See above

Subject-specific practical skills:

See above

Key transferable skills:

See above

University Regulations

University Regulations for Postgraduate Research study are set out in [Regulation XXVI](#) (Higher Degrees by Research).

Please see the [Terms and Conditions of Study](#) for detailed information on your contract with the University.

Programme structure

To ensure cohesion within and between cohorts, and to build professional skills, a structured programme of cohort support and development will be provided through an annual cycle of events which starts on day 1. Training has two primary objectives, to build the cohort network and to develop skills. Skills development will be to broaden student capabilities and will include inter alia, team building, presentation, risk management, data management, big data handling, negotiation and conflict resolution, commercial awareness, contracting and participatory development as per the Vitae Researcher Developer Framework (2010).

It is anticipated that all currently enrolled students will be together up to five times during each year of study, hosted at a partner institution: the annual team building event (September), Challenge week (January), Summer conference (July), and Biannual professional networking typically May and November.

Part R0

Doctoral Researchers will complete the following:

- Commence consultation with potential supervisors and industry/impact partners to identify and agree on the research topic.
- A minimum of 60 credits in modular courses assessed in accordance with Regulation XXI.

Modules available for selection:

	Module title
1	CVP430 Management of Water and Environmental Sanitation Services (DL) or CVP446 Management of Water and Environmental Sanitation Infrastructure (DL)
2	CVP431 Water and the Natural Environment (DL)
3	CVP432 Management of Village Water Services (DL)
4	CVP435 Management and Operation of Water Utilities (DL)
5	CVP441 Urban and Rural Water Engineering (DL) – (not to be studied with 3 or 4 above)
6	CVP450 Global Challenges and Opportunities in WASH (DL)
7	CVP436 Urban and Rural Sanitation Management (DL)
8	CVP443 Urban and Rural Sanitation Engineering (DL) - (not to be studied alongside 6 or 7 above)
9	CVP437 Disaster Risk Management (DL)
10	CVP438 Humanitarian WASH Promotion (DL)
11	CVP421 Advanced Wastewater treatment
12	CVP418 Flood Modelling and Management
13	CVP420 Groundwater Modelling and Management

In the event that a student has already studied these or equivalent similar modules then alternative modules may be agreed at the discretion of the Programme Director.

Students should attend Loughborough based modules unless agreed otherwise with the Programme Director and CDT Management Team.

The structured training programme must be agreed by the Programme Director and agreed with the CDT Management Team via the Programme Director.

Students are also required to complete the following compulsory taught level 5 research module, Water WISER Research skills training which may be taught face to face at one of the partner institutions.

Students will also complete compulsory training events; annual team building; challenge week; conference and two professional networking events.

At the end of year one the Water WISER Management Team will assess the performance of the student on the basis of the module assessment, required training and other activities. Candidates are required to pass 60 credits of taught modules and to have made substantial progress in identification of a PhD research topic, supervisory team and industry/impact partners in order to progress on the programme. Students must submit a draft research plan which will be assessed by the supervisory team and an independent reviewer at month 6. A final draft PhD research proposal, including a budget which has been agreed by the supervisory team and an independent reviewer will be submitted to the CDT management team for approval at month 12. The CDT Management board recommendation will be submitted to the School Progression Board for approval.

Part R1

Doctoral Researchers will complete the following:

- Candidates may, in exceptional circumstances, study up to 60 credits of taught modules (see above)
- Students will also complete compulsory training events; annual team building; challenge week; conference and two professional networking events.

Submission of a 1000-word research report at 6 months for part-time Doctoral Researchers.

Submission of a 2,000-word research report at the mid-way point of Part R1 and submission of a satisfactory 10,000-word research report (end of Part report) towards the end of Part R1 in accordance with the provisions of Regulation XXVI.

Typically, the timetable for reports in R1 will follow the schedule below.

Time spent in R1	6 months	12 months	24 months
Full-time	2,000-word mid-part report	10,000-word end of part report	
Part-time	1,000-word research report	2,000-word mid-part report	10,000-word end of part report

Part R2

Doctoral Researchers will complete the following:

PhD candidates: Submission of a mid-part review for part time Doctoral Researchers, and a satisfactory 10,000-word research report (end of Part report) towards the end of Part R2 in accordance with the provisions of Regulation XXVI.

Typically, the timetable for reports in R2 will follow the schedule below.

Time spent in R2	12 months	24 months
Full-time	10,000-word end of part report	
Part-time	Mid-part report	10,000-word end of part report

MPhil candidates: Submission of their formal MPhil thesis for examination in accordance with the provisions of Regulation XXVI at the end of part R2.

Part R3

Doctoral Researchers will complete the following:

Submission of a mid-part report for part-time Doctoral Researchers.

At the end of R3, submission of a formal PhD thesis for examination in accordance with the provisions of Regulation XXVI. Typically, the timetable for reports in R3 will follow the schedule below.

Time spent in R3	12 months	24 months
Full-time	PhD submission	
Part-time	Mid-part report	PhD submission

Criteria for Progression and Degree Award

To progress from Part R0 to R1, Part R1 to Part R2 and from Part R2 to Part R3, and to be eligible for an award, candidates must satisfy the assessment requirements set out in [Regulation XXVI](#). Candidates must complete all the requirements for each Part outlined above in order to progress to the next Part. If an end of part report does not meet the standards required for progression, candidates may undertake further work and resubmit the report on one occasion only in accordance with the provisions of [Regulation XXVI](#).