



Programme Specification (PG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of final award and programme title:	MSc
Name of interim award(s):	
Duration of study / period of registration:	1 year FT, 2 years PT
Queen Mary programme code(s):	F7S8/F7S9
QAA Benchmark Group:	Environmental Science
FHEQ Level of Award:	Level 7
Programme accredited by:	
Date Programme Specification approved:	
Responsible School / Institute:	School of Geography

Schools / Institutes which will also be involved in teaching part of the programme:

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Collaborative institution(s) / organisation(s) involved in delivering the programme:

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Programme outline

This programme aims to produce scientists of the highest calibre, capable of addressing priority aquatic resource and sustainable management issues needing interdisciplinary solutions. The programme aims to provide in-depth fundamental and applied training in the science and management of aquatic environments from uplands and hillslopes through floodplain and river networks to estuaries, and to produce scientists able to use the knowledge and skills acquired to enter direct employment or research for a higher degree in the broad field of freshwater and estuarine environments and their management.

Grounding for these areas is given through the development of (i) transferable skills (report writing, problem solving, IT and data handling, verbal communication, presentation skills) and (ii) appropriate core and specialist scientific and technical knowledge and skills to support a career in the water industry or in water science research.

Aims of the programme

The programme aims to produce scientists of the highest calibre capable of addressing priority aquatic resource and sustainable management issues needing interdisciplinary solutions. The programme aims to provide in-depth fundamental and applied training in the science and management of aquatic environments from uplands and hillslopes through floodplain and river networks to estuaries, and to produce scientists able to use the knowledge and skills acquired to enter direct employment or

research for a higher degree in the broad field of freshwater and estuarine environments and their management.

- Grounding for these areas is given through the development of (i) transferable skills (report writing, problem solving, IT and data handling, verbal communication, presentation skills) and (ii) appropriate core and specialist scientific and technical knowledge and skills (including field data collection, laboratory analytical skills, data analysis and modelling) to support a career in the water industry or research in the water sciences.
- For direct employment in water management, the programme emphasises the information needs for policy and decision making and provides for a close interface with scientists active in this area through visiting lecturers from statutory organisations, non-governmental bodies and charities, and industry, and the development and implementation of research project topics in collaboration with water industry practitioners and under the supervision of QMUL academics supported by the School's field and laboratory technical team.
- For PhD aspirants, the range of internal and visiting expert contributors provide an awareness of current and emerging issues and there is opportunity to develop further research skills through an Advanced Readings.

What will you be expected to achieve?

The programme provides opportunities for students to achieve and demonstrate the learning outcomes as detailed below (boxes A to C). These have been developed in consultation with the MSc WEM Advisory Board comprising leading experts from the water industry, governmental and non-governmental bodies, and reflecting the distinctive nature of the research and teaching in the School in aquatic environments. The Advisory Board meets annually to review the programme to ensure delivery of up-to-date skills training and knowledge content through our modules in response to the changing needs of roles in the water sector. In addition, regular contact occurs through the year as our Advisory Board members deliver seminars on the Catchment Science in Practice module and offer employability advice to the WEM students. Some also act as collaborative partners assisting in the supervision of the Individual Research Project.

Academic Content:

A 1	A quantitative and interdisciplinary understanding of water science and management appropriate to the requirements of current and developing user needs. The major users are identified as the Environment Agency, other government agencies and research establishments, consultancies, research council and contract research in universities, water utilities, and non-governmental bodies such as charities.
A 2	Knowledge and understanding of the structure and function of aquatic ecosystems and of the implications of global environmental change for aquatic environments.
A 3	Green skills including knowledge and understanding of how to develop sustainable strategies (including nature-based solutions) to conserve and restore aquatic environments in the context of changing legislative and policy drivers
A 4	Knowledge and understanding of a range of methodological strategies used in the analysis and interpretation of environmental information.

Disciplinary Skills - able to:

B 1	Demonstrate a sound understanding of water science topics including hydrology, geomorphology and biogeochemistry and their application to environmental management and nature-based solutions.
B 2	Plan, design, and execute a piece of rigorous research or enquiry, including the production of a piece of original research that addresses themes associated with water and environmental management

B3	Undertake effective field work and laboratory work (with due regard to safety and risk assessment) and manage environmental data sets.
B4	Design and execute data collection and analysis using a variety of field, laboratory, modelling and geospatial methods to understand global issues associated with water and environmental management.

Attributes:	
C1	Engage critically and reflectively with knowledge in the area of water and environmental management.
C2	Take an innovative and creative approach to problem solving, applying disciplinary knowledge and appropriate analytical techniques to promote sustainability, design solutions and quantify outcomes in water and environmental management.
C3	Communicate effectively in a range of formats to effectively support decision making in water and environmental management.
C4	Collaborate with a diverse range of colleagues, including environmental management practitioners through guest speakers, the MSc Advisory Board and collaborative research projects.

How will you learn?

Teaching and learning methods include:

Lectures to deliver core material, but presented in a workshop-like context whereby students will be encouraged to interject questions.

Seminars led by academic staff or practitioners in conjunction with students will complement lectures and form a part of all compulsory modules.

Field and laboratory work whereby students will undertake practical work using appropriate equipment and will learn to design field and laboratory programmes, observations and experiments, to undertake this work safely and with appropriate risk assessments, to apply standard approaches to an appropriate level of precision, to record information in an appropriate manner and write it up in the form of reports, and to interpret the results of their work within a broad environmental context. All compulsory modules will include either field work or laboratory work and some will include both.

Bespoke careers and employability training delivered by Careers & Enterprise, including a workshop on LinkedIn.

Group project work whereby students will work together to gather information, interpret it and produce proposals for the solution of management problems.

Presentations whereby students will present their results and ideas to their colleagues and academic staff.

One to one supervision for the individual research project whereby students will meet with the course tutor to plan their project and, where appropriate, the type of practitioner organisation that they would like to collaborate with. This will commence in October, so that by January the student has an internal supervisor and, where appropriate, an external practitioner, with whom they can plan their research. This allows the student to be ready to commence working on the project immediately after the completion of the taught modules and committing to it full time from June to August.

Reading and private study is expected in relation to all modules, although the amount will vary depending upon the length of formal contact hours within the modules. Comprehensive reading lists will be provided with all modules and student reading will underpin their ability to participate fully in each module and to produce high quality assessed work.

Learning will be supported through the provision of detailed information on module content and assessment for all modules on the programme.

Students have access to a wide range of resources: these include: first rate laboratories and the field equipment necessary for state-of-the-art training in the scientific aspects of aquatic environments; a range of IT resources including networked PCs and a high specification Geospatial Laboratory; the University Library, the University of London Library at Senate House and the first rate resources of other libraries within London such as the British Library; a Masters' student room for study in the Department of Geography.

How will you be assessed?

Student assessment will be varied but all based on coursework.

Field reports
Literature reviews
Data analysis/modelling exercises
Hydrological analysis report
Extended essay
Laboratory reports
Short synoptic reports
Data analysis & interpretation
River restoration design report
Individual Research Project
Skills awareness and communication exercise (preparation of a Cover Letter and CV for an advertised role in the water sector).
Academic and professional development portfolio

How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

Students take three electives on the programme. Students are strongly recommended to take GEG7314 and GEG7226 and then select one of either GEG6232P or GEG7142 Advanced Readings. Graduates from UG programmes in Geography or Environmental Science at QMUL may have already taken Level 6 versions of GEG7314, GEG7226 or GEG6232P. These students will be barred from taking the Level 7 versions of these modules and must choose alternative modules from either the programme diet or L5, 6, or 7 modules from other programmes offered by the School of Geography, other Schools, or UoL institutions in line with academic regulations, subject to the MSc programme convenor's approval and timetabling compatibility.

Students are permitted to select up to 30 credits from outside the module diet, including modules outside the School, subject to approval from the programme convenor.

Part time students will normally take 75 credits of taught modules in year 1, and then 105 credits in year 2 to include GEG7308. Up to 90 credits of taught modules can be taken in year 1 with the agreement of the module convenor.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Catchment Science in Practice	GEG7318	30	7	Compulsory	1	Semesters 1 & 2
Environmental Data Acquisition and Analysis	GEG7316	30	7	Compulsory	1	Semester 2

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Individual Research Project	GEG7308	60	7	Core	1	Semesters 1-3
Flood Risk Management and Modelling	GEG7314	15	7	Elective	1	Semester 2
River Assessment and Restoration	GEG7317	15	7	Compulsory	1	Semester 1
Biogeosciences and Ecosystem Services	GEG7313	15	7	Compulsory	1	Semester 2
Environmental Pollution	GEG7226	15	7	Elective	1	Semester 1
Advanced Readings	GEG7142	15	7	Elective	1	Semester 1 or 2
Nature Based Climate Solutions	GEG6232P	15	7	Elective	1	Semester 1

What are the entry requirements?

Minimum standard is a 2i (Hons) degree or international equivalent (e.g. GPA of 3.2 from a US University). Candidates who do not achieve a 2i but have professional or voluntary experience will also be considered. A postgraduate degree from a recognised university will be considered to be the equivalent of a 2i class undergraduate degree.

Candidates without academic qualifications but who can demonstrate relevant experience in professional life will also be considered. No degree subjects are excluded, relevance is however important and is considered alongside the professional and voluntary experience of the candidate.

Non-native speakers must achieve a minimum of IELTS 6.5 or equivalent. Students who have achieved a minimum of IELTS 6.0 or equivalent can attend a pre-session course for one month instead of taking IELTS or equivalent again. At the end of the pre-session course they can enter the MSc directly.

How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Student-Staff Liaison Committee provides a formal means of communication and discussion between schools/institutes and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. There is a MSc WEM CourseRep on the SSLC. The SSLC is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Student-Staff Liaison Committees meet regularly twice per semester (6 times in total through the academic year).

Each school/institute operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Education on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to the Taught Programmes Board. Student views are incorporated in the committee's work in a number of ways, such as through student membership, or consideration of module evaluations. The latter comprise early module evaluations (Week 4) to gain early feedback and make changes if necessary early in a module and end of module evaluations. These surveys are conducted online through the module page on QMplus and are anonymous. Module convenors report on the outcomes of the evaluations.

All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. Students' views are considered in this process through analysis of module evaluations.

What academic support is available?

Students can seek support from the module convenors and the Programme Director has overall responsibility for the programme. Students are allocated an Academic Advisor who they meet regularly on a one-to-one basis. Students are allocated a supervisor for the Individual Research Project.

The Student-Staff Liaison Committee (SSLC) provides a formal means of communication and discussion between the School and its students. The committee consists of undergraduate and postgraduate student representatives (with one from the MSc WEM programme) together with key members of staff (Head of School, Director of Student Experience (who co-chairs with an elected student co-chair), Director of Education, Director of Student Support and Engagement, Programme Directors (including the MSc WEM Programme Director), Chair of Examinations, Postgraduate Manager, Student Support Officer, library representative. Students are able to volunteer for the role of student representative at the start of each academic year. The SSLC is designed to respond to the needs of students and meets regularly throughout the year (2 meetings per semester, 6 in total). Matters raised in this committee are reported to the rest of the School's staff via the Education Committee so that they can take action as appropriate.

Programme-specific rules and facts

How inclusive is the programme for all students, including those with disabilities?

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites. The School has a Director of Student Support and Engagement and a Student Support Officer.

Students can access advice, guidance and support in the following areas:

- Finding out if you have a specific learning difficulty like dyslexia
- Applying for funding through the Disabled Students' Allowance (DSA)
- Arranging DSA assessments of need
- Special arrangements in examinations
- Accessing loaned equipment (e.g. digital recorders)
- Specialist one-to-one "study skills" tuition
- Ensuring access to course materials in alternative formats (e.g. Braille)
- Providing educational support workers (e.g. note-takers, readers, library assistants)
- Mentoring support for students with mental health issues and conditions on the autistic spectrum.

Links with employers, placement opportunities and transferable skills

The programme will provide students with knowledge and understanding relevant to employment in organisations in the water sector (e.g. Environment Agency, Defra, Natural England, Centre for Ecology and Hydrology, water companies, environmental consultancies, and charitable sector such as river and wildlife trusts and the National Trust). In addition, the programme will equip students with a range of transferable skills and attributes (including the constructive and critical use of information, the development of problem-solving and decision-making skills and effective communication skills) sought by diverse employers.

The Catchment Science in Practice module is designed to connect students with the water sector practitioner/ stakeholder community and deepen understanding of the practice of managing catchments through research seminars, interactions with professional/ practitioner networks and events, employability workshops with representatives from the water sector, field visits and guest lectures. Careers and employability training is further provided through a LinkedIn workshop.

The programme has an Advisory Board comprising representatives from the water resource management sector (government agencies, water companies, environmental consultants) who provide advice and input on the programme content, structure and employability elements. Students also meet with the Advisory Board to discuss career options and ideas for their research projects and members of the board give guest lectures.

For the Individual Research Project we encourage collaboration with a water sector organisation, allowing students to develop direct links with potential employers. The module convenor of the Individual Research Project and the research project supervisor facilitate this.

Programme Specification Approval

Person completing Programme Specification:	Professor Gemma Harvey
Person responsible for management of programme:	Prof Gemma Harvey
Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:	29 Nov 2024
Date Programme Specification approved by Taught Programmes Board:	