**Programme Title:** PG Cert Environmental Science: Integrated Management of Freshwater Environments

**Programme Specification**

**Awarding Body/Institution:** Queen Mary University of London

**Teaching Institution:** Queen Mary University of London

**Name of Final Award and Programme Title:** Integrated Management of Freshwater Environments

**Duration of Study / Period of Registration:** 1 year FT, 2 years PT

**QM Programme Code / UCAS Code(s):** L8Q7

**QAA Benchmark Group:**

**FHEQ Level of Award:** Level 7

**Programme Accredited by:**

**Date Programme Specification Approved:**

**Responsible School / Institute:** School of Geography

**Schools which will also be involved in teaching part of the programme**

**Institution(s) other than Queen Mary that will provide some teaching for the programme**

**Programme Outline**

This programme aims to produce scientists of the highest calibre, capable of addressing priority freshwater 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 freshwater environments from uplands and hillslopes through floodplain and river networks to estuaries, and knowledge and skills of direct relevance to employment in the field of freshwater environments and their management. The programme enables students to choose from a selection of modules to suit their interests and requirements.

**Aims of the Programme**

This programme aims to produce scientists of the highest calibre, capable of addressing priority freshwater 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 freshwater environments from uplands and hillslopes through floodplain and river networks to estuaries, and knowledge and skills of direct relevance to employment in the field of freshwater environments and their management. The programme enables students to choose from a selection of modules to suit their interests and requirements.
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• Grounding for these areas is given through the development of (i) transferable skills (including report writing, problem solving, IT and data handling, verbal communication skills) and (ii) appropriate specialist scientific and technical knowledge and skills to support a career in the water industry.

• The programme emphasises the information needs for policy and decision making and provides for a close interface with scientists and practitioners active in this area through visiting lecturers, industrial visits, engagement with external meetings and our Advisory Board comprising representatives from the water sector.

What Will You Be Expected to Achieve?

Academic Content:

| A1  | Students will develop a quantitative and interdisciplinary understanding of freshwater 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, and water utilities. |
| A2  | Students will achieve a broadly-based understanding of the structure and function of freshwater systems and of the implications of global environmental change for freshwater environments. |

Disciplinary Skills - able to:

| B1  | Demonstrate a sound understanding of freshwater science and management issues, including hydrology, hydrogeomorphology and biogeochemistry |

Attributes:

| C1  | Able to undertake quantitative assessment of data |
| C2  | Able to report information effectively to support decision making. |

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.

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.
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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.

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.

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 handbooks for the programme and its modules.

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 freshwater environments; a range of IT resources including networked PCs; the College Library, the University of London Library at Senate House and the first rate resources of other libraries within London; 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 and includes (depending on module choices):

- Field notebook
- Field trip report
- Literature review
- Data analysis exercise
- Modelling exercise
- River design project
- Extended essay
- Laboratory report
- Short synoptic report
- Annotated bibliography
- Essay

How is the Programme Structured?

Please specify the full time and part time programme diets (if appropriate).

Students choose 60 credits from a selection of modules:

- GEG7318 Catchment Science in Practice (30 credits)
- GEG7314 Flood Risk Management and Modelling (15 credits)
- GEG7317 River Assessment and Restoration (15 credits)
- GEG7313 Biogeosciences and Ecosystem Services (15 credits)
- GEG7309 Field Methods for Freshwater Environmental Science (15 credits)
- GEG7305 Desk Study (15 credits)
- GEG7205 Data Analysis (15 credits)
- GEG7310 Physical Modelling of Fluvial Processes (15 credits)

For the part-time option students would take 30 credits of modules each year - there are no restrictions as to which modules are taken in each year of the part-time programme.

Academic Year of Study FT - Year 1
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<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credits</th>
<th>Level</th>
<th>Module Selection Status</th>
<th>Academic Year of Study</th>
<th>Semester</th>
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<tbody>
<tr>
<td>Catchment Science in Practice</td>
<td>GEG7318</td>
<td>30</td>
<td>7</td>
<td>Elective</td>
<td>1</td>
<td>Semesters 1 &amp; 2</td>
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<td>Flood Risk Management and Modelling</td>
<td>GEG7314</td>
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<td>Semester 2</td>
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<tr>
<td>River Assessment and Restoration</td>
<td>GEG7317</td>
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<td>7</td>
<td>Elective</td>
<td>1</td>
<td>Semester 1</td>
</tr>
<tr>
<td>Biogeosciences and Ecosystem Services</td>
<td>GEG7313</td>
<td>15</td>
<td>7</td>
<td>Elective</td>
<td>1</td>
<td>Semester 2</td>
</tr>
<tr>
<td>Field Methods for Freshwater Environmental Science</td>
<td>GEG7309</td>
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<td>7</td>
<td>Elective</td>
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<td>Semester 3</td>
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<td>Desk Study</td>
<td>GEG7305</td>
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<td>7</td>
<td>Elective</td>
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<td>Semesters 1 &amp; 2</td>
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<tr>
<td>Data Analysis</td>
<td>GEG7205</td>
<td>15</td>
<td>7</td>
<td>Elective</td>
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<td>Semester 2</td>
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<tr>
<td>Physical Modelling of Fluvial Processes</td>
<td>GEG7310</td>
<td>15</td>
<td>7</td>
<td>Elective</td>
<td>1</td>
<td>Semesters 1 &amp; 2</td>
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**What Are the Entry Requirements?**

An upper second class honours degree or higher in a relevant subject from a UK university (or an equivalent international qualification) together with two supportive references is usually required. It is not a requirement to have previously studied geography and we encourage applications from students from a natural and environmental sciences background. Candidates who do not meet these criteria but have relevant work experience will be considered and are encouraged to contact the programme convenor.

Candidates are expected to have good English language ability and to meet the standard of the IELTS, or equivalent, at a level of 6.5. Read more about English language requirements. If you do not meet language requirements it might be possible for you to undertake foundation or pre-sessional programmes that will prepare you for the masters programme. For more information, please contact the Admissions Office on +44 (0) 7882 5533 or email admissions@qmul.ac.uk. For detailed country-specific entry requirements please visit the International section of our website.

**How Do We Listen and Act on Your Feedback?**

The Staff-Student 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. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Staff-Student Liaison Committees meet regularly throughout the year.

Each school/institute operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Taught Programmes 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 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 student surveys.

All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a
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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 the NSS and module evaluations.

Academic Support

The programme convenor has overall responsibility for the programme and is the first point of contact. Students are also allocated a supervisor for the Desk Study and Physical Modelling of Fluvial Processes modules.

The Staff-Student Liaison Committee (SSLC) provides a formal means of communication and discussion between the School and its students. The committee consists of postgraduate student representatives together with some members of staff (including the Head of School Senior Tutor, Year Tutors and other teaching staff, and Undergraduate and Postgraduate student reps). 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. Matters raised in this committee are reported to the rest of the Department's staff via the Teaching and Learning Committee so that they can take action as appropriate.

Programme-specific Rules and Facts

Specific Support for Disabled Students

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.

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 and environmental consultancies). 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...
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professional/ practitioner networks and events, employability workshops with representatives from the water sector, field visits and guest lectures.

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.

<table>
<thead>
<tr>
<th>Programme Specification Approval</th>
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<tbody>
<tr>
<td>Person completing Programme Specification</td>
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<tr>
<td>Person responsible for management of programme</td>
</tr>
<tr>
<td>Date Programme Specification produced/amended by School Learning and Teaching Committee</td>
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<tr>
<td>Date Programme Specification approved by Taught Programmes Board</td>
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