

Programme Specification

Awarding Body/Institution	Queen Mary, University of London
Teaching Institution	Queen Mary, University of London
Name of Final Award and Programme Title	MSci Environmental Science
Duration of Study / Period of Registration	4 years Full time
QM Programme Code / UCAS Code(s)	F750
QAA Benchmark Group	Earth sciences, environmental sciences and environmental studies
FHEQ Level of Award	Level 7
Programme Accredited by	
Date Programme Specification Approved	
Responsible School / Institute	School of Geography

Schools also involved in teaching part of the programme

School of Biological & Chemical Sciences

Programme Rationale

From global challenges such as climate change and loss of biodiversity to protecting the quality of our local waterways we are all affected by environmental issues. The MSci Environmental Science will help students to develop scientific understanding of environmental processes and engage with diverse global environmental issues and their management.

This is an interdisciplinary programme organised by the School of Geography and taught jointly with the School of Biological and Chemical Sciences, drawing on their specialist expertise to give the programme a distinctive and important focus on aquatic environments. The programme aims to help students develop a critical awareness of environmental problems and train them in a range of analytical and observational, field and laboratory techniques that can be applied to their own research, in industry as an environmental scientist or in an academic career.

At Levels 4, 5 and 6, students follow a broad environmental science programme where teaching and learning will be informed by the active research of staff particularly within the fields of environmental change and hydromorphological and biogeochemical processes in physical geography, together with research in biological science and human geography. At Level 7, students will specialise in the science and management of freshwater and coastal environments from uplands and hillslopes through floodplain and river networks to estuaries, including an extended independent research project.

Educational Aims of the Programme

In line with the Queen Mary Statement of Graduate Attributes (QMSGAs), the programme aims to:

- Foster critical engagement with knowledge at the forefront of the academic discipline as outlined in the benchmark statements for Environmental Science and informed by active research in the School's Hydrogeomorphological and Biogeochemical Processes, and Environmental Change research groups.

- Extend students' understanding in Environmental Science through academic enquiry, encompassing a range of analytical and observational, field and laboratory techniques that can be applied to their own research, and in industry as an environmental practitioner.
- Develop expertise in the constructive and critical use of information including effective use of information technologies, critical evaluation of information sources, and the development of problem-solving and decision-making skills.
- Equip students with the skills and experience required to communicate clearly and effectively with a range of audiences in both written and verbal form
- Develop a global perspective through engaging with diverse global environmental issues and their management.

Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to the relevant QAA benchmark statement(s) (see above) and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008), and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education 2003 and Queen Mary Statement of Graduate Attributes have been used as a guiding framework for curriculum design.

Knowledge and understanding of:

A 1	A systems approach to understanding the interactions between the surface and near-surface physical, chemical, biological and anthropogenic processes operating on the Earth
A 2	The monitoring and management of natural and human-induced environmental changes
A 3	Global environmental concerns and options for their remediation

Intellectual skills - able to:

B 1	Tackle and solve environmental problems, critically assessing outcomes
B 2	Interpret environmental data through constructive and critical use of quantitative and qualitative information
B 3	Select, apply and critically evaluate a comprehensive range of analytical techniques to understand a wide range of environmental processes

Transferable skills - able to:

C 1	Work effectively both independently and collaboratively
C 2	Use information for evidence-based decision-making and creative thinking
C 3	Communicate effectively and with diverse audiences in written and verbal form

Practical skills - able to:	
D1	Apply a range of analytical and observational field and laboratory techniques
D2	Use information technologies to access and interpret information effectively
D3	

Teaching, Learning and Assessment Strategies

Teaching and learning methods will incorporate:

- (i) Lectures to deliver core material, but incorporating discussion points and opportunities for students to ask questions and contribute ideas.
- (ii) Staff-led and student-led seminars
- (iii) 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.
- (iv) Group project work whereby students will work together to gather, interpret and present information in written and verbal form.
- (v) Presentations whereby students present their results and ideas to their colleagues and academic staff.
- (vi) One to one supervision for the independent research project whereby students will meet with a tutor to plan their project.
- (vii) 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.

Tutorial support is provided through compulsory modules at each Level of the MSci programme (GEG4206, GEG5211, GEG6216, and GEG708U).

Students have access to a wide range of resources, including: first rate laboratories and the field equipment necessary for state-of-the-art training in the scientific aspects of environmental science; 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.

Assessment strategies will include written examination, field and laboratory reports, group and individual oral presentations and written assignments.

Final degrees will be awarded (by the Undergraduate Exam Board) according to the weighting 1:2:3:4 in levels 4, 5, 6 and 7 in line with other QMUL MSci programmes. At the end of level 5 there will be a threshold for progression with students normally achieving a weighted average of >55% in levels 4 and 5 and with at least 60 level 5 credits >60% for progression to the MSci. Students below this threshold will progress to the BSc as long as they meet progression requirements for that programme. Students registered on the MSci programme will have the option to qualify as a BSc student at the end of level 6 as long as they meet programme requirements. This decision would need to be taken at the end of Level 5 in order to ensure that programme requirements for Level 6 are met. Weighting for students qualifying as a BSc student will be 1:3:6.

Programme Structure(s) and Requirements, Levels and Modules

Programme structure is outlined below.

At Level 4, students take 120 credits of compulsory modules comprising modules from Geography and SBCS.

At Level 5 students take compulsory modules worth 90 credits from Geography and SBCS. They may then choose 30 credits from a range of modules from Geography and SBCS.

At Level 6 students take two compulsory 15 credit modules from Geography, and may then choose 90 credits from a range of

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modules from Geography and SBCS.

At Level 7 students take 90 credits of compulsory modules from Geography including a 45 credit Individual Research Project. They may then choose 30 credits from a range of modules in Geography.

	Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
X	Ideas and Practice in Geography and Environmental Science	GEG4002	15	4	Compulsory	1	Semesters 1 & 2
X	Research Methods for Geographers and Environmental Scientists	GEG4004	30	4	Compulsory	1	Semesters 1 & 2
X	Fieldwork in Physical Geography and Environmental Science	GEG4204	15	4	Compulsory	1	Semester 2
X	Earth Surface Science	GEG4209	15	4	Compulsory	1	Semester 1
X	Evolution	BIO113	30	4	Compulsory	1	Semester 2
X	People and the Environment	GEG4005	15	4	Compulsory	1	Semester 2
X	Earth System Cycles	GEG5203	30	5	Compulsory	2	Semesters 1 & 2
X	Research Strategies in Physical Environments	GEG5211	30	5	Compulsory	2	Semesters 1 & 2
X	Ecological Interactions	SBC224	15	5	Compulsory	2	Semester 2
X	Evolutionary Genetics	SBS633	15	5	Compulsory	2	Semester 1
X	Global Environmental Change	GEG5206	30	5	Elective	2	Semesters 1 & 2
X	Digital Cartography	GEG5221	15	5	Elective	2	Semester 1
X	Animal and Plant Diversity	BIO211	15	5	Elective	2	Semester 1
X	Society, Culture and Space	GEG5110	30	5	Elective	2	Semesters 1 & 2
X	Spaces of Uneven Development	GEG5111	30	5	Elective	2	Semesters 1 & 2
X	Health, Biomedicine and Society	GEG5113	30	5	Elective	2	Semesters 1 & 2
X	Alpine Environments: Physical Processes in the NZ Southern Alps	GEG5220	30	5	Elective	2	Semester 2

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X	Environmental Management Applications	GEG5219	30	5	Elective	2	Semester 2
X	Advanced Research and Practice in Environmental Science	GEG6216	15	6	Compulsory	3	Semesters 1 & 2
X	Progress in Physical Geography and Environmental Science	GEG6221	15	6	Compulsory	3	Semester 2
X	Environmental Hazards	GEG6203	15	6	Elective	3	Semester 1
X	Quaternary Palaeoenvironments	GEG6213	15	6	Elective	3	Semester 2
X	Science and Politics of Climate Change	GEG6214	15	6	Elective	3	Semester 2
X	Environmental Engineering	DEN320	15	6	Elective	3	Semester 1
X	Integrated Catchment Management	GEG6218	15	6	Elective	3	Semester 2
X	Tropical Ecology and Conservation	SBC711	15	6	Elective	3	Semester 3
X	Environmental Management Applications	GEG6219	30	6	Elective	3	Semesters 1 & 2
X	Cold Environments	GEG6202	15	6	Elective	3	Semester 2
X	Geographies of Science	GEG6124	15	6	Elective	3	Semester 2
X	Geo-ecology and geo-conservation	GEG6222	15	6	Elective	3	Semester 1
X	Geographies of Nature	GEG6128	15	6	Elective	3	Semester 2
X	Global Change Biology	SBC326	15	6	Elective	3	Semester 2
X	Behavioural Ecology	SBS216	15	6	Elective	3	Semester 1
X	Alpine Environments: Physical Processes in the NZ Southern Alps	GEG6220	30	6	Elective	3	Semester 2
X	Field Methods for Freshwater Environmental Science	GEG709U	15	7	Compulsory	4	Semester 2
X	Data Analysis	GEG725U	15	7	Compulsory	4	Semester 1
X	River Assessment and Restoration	GEG717U	15	7	Elective	4	Semester 2
X	Biogeosciences and Ecosystem Services	GEG713U	15	7	Elective	4	Semester 2

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X	Physical Modelling of Fluvial Processes	GEG710U	15	7	Elective	4	Semesters 1-3
X	Independent Research Project	GEG708U	45	7	Compulsory	4	Semester 1
X	Flood Risk Management and Modelling	GEG714U	15	7	Elective	4	Semester 2
X	Ecology	BIO123	15	4	Compulsory	1	Semester 2
X	GIS: Remote Sensing and modelling	GEG5222	15	5	Elective	2	Semester 2
X	International Environmental Law for Environmental Scientists	LAW6059	15	6	Elective	3	Semester 1

Criteria for Admission to the Programme

The School considers each candidate individually and may conduct admissions interviews. Entry requirements are as follows:

A-levels

Tariff/Grades requirement: 340 points from the best three A-levels. If you do not perform well in one subject and do better in others, that is acceptable providing you gain the minimum number of points required for the degree programme. One science A-level at grade B is, however, required for F750 Msci Environmental Science. Excluded subjects: General Studies.

Vocational or applied A-levels

The following Applied A-levels and Double Awards only are acceptable: Art and Design; Business; Information and Communication Technology; Leisure and Recreation; Media; Performing Arts; Science; Travel and Tourism.

BTEC National Certificate (12 units)

Acceptability: Acceptable only when combined with other qualifications. Subjects and grades required: Overall Double Award DD.

BTEC National Diploma (18 units)

Acceptability: Acceptable on its own and combined with other qualifications. Subjects and grades required: Overall DDM.

International Baccalaureate

Acceptability: Acceptable on its own and combined with other qualifications. Subjects and grades required: 35 points overall and higher level at grade 5 in Geography preferred.

European Baccalaureate

Acceptability: Acceptable on its own and combined with other qualifications. Subjects and grades required: 75 per cent.

Access Qualifications

Subjects and grades required: Achieve Access to HE Diploma including at least 45 credits at Level 3, with 24 at Distinction and 12 at Merit.

All students must meet Queen Mary's English language requirements. Students from outside the United Kingdom must give evidence of their English language ability by producing an English language test score. Requirements are as follows:

IELTS 7.0

TOEFLIBT 100

PTE Academic 68

Quality Assurance Mechanism

Include details of: SSLC meetings, student feedback mechanisms, personal tutor arrangements, programme induction, programme review and monitoring.

PROGRAMME MANAGEMENT

Programme management is the responsibility of the Director of Taught Programmes in the School of Geography who chairs the Teaching and Learning Committee.

The MSci programme will also be continuously monitored and reviewed by the Environmental Science Advisory Group (ESAG), chair by Dr Gemma Harvey, which was established to review the structure and organisation of the BSc Environmental Science programme. The terms of reference for the ESAG include overseeing the running of the Environmental Science Degree Programmes and making recommendations to the dean(s) of the faculties and head(s) of the departments/schools affected on any changes to the policy, core structure and administration as necessary to improve the viability, academic standards and ease of management of the Programmes.

STUDENT SUPPORT AND INDUCTION

The Schools of Geography, Biological and Chemical Sciences, and Business and Management are welcoming and friendly departments and all academic and professional support staff play a role in ensuring that students are supported through their studies.

Programme Induction is provided for all incoming students during Welcome Week. This is used as an opportunity to acquaint new students with the format of the programme and expectations of them. Students also receive a library induction. All students meet with a designated Personal Tutor in the School of Geography during this week to talk about module selection and how to manage the registration process. Students with special educational needs have the opportunity to talk to their adviser about how the College can best support them, and to agree with the students how to communicate those needs to appropriate members of staff. In week 1 of the first year we also run a week of intensive fieldwork and other activities called 'Investigating London'. This provides an opportunity for extended induction and for staff and students to get to know one another.

All students are allocated a Personal Tutor in Geography with whom they will meet for an hour weekly or fortnightly during Semesters A and B in their first and second developmental years. In the final year, Personal Tutors also act as students' Project in Environmental Science supervisors and regular one-to-one meetings take place. The Personal Tutor also acts as the student's study adviser offering guidance on study choices and providing feedback on progress. All staff have weekly office hours when they are available to see students on a one-to-one basis.

Further academic support can be obtained from Year Tutors in Geography who are responsible for specific year cohorts of undergraduate students, dealing with problems and pastoral care issues as well as monitoring attendance and engagement. The Senior Tutor has overall responsibility for matters concerning student support and welfare within the School and can be consulted in relation to more serious issues and problems. Finally, the Schools of Geography, Biological and Chemical Sciences, and Business and Management all participate in the College's PASS scheme -- a peer-mentoring system where new students can seek advice and support for students at later stages in their degree programme.

LISTENING TO AND ACTING UPON STUDENT FEEDBACK

The Staff-Student Liaison Committee provides a formal means of communication and discussion between the Schools of Geography and Biological and Chemical Sciences and their students. The committee consists of student representatives from each year group together with appropriate representation from staff within each School. 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.

The Schools of Geography and Biological and Chemical Sciences each operate a Teaching and Learning Committee which advises their respective 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 committees' work through the reporting of minutes from the Staff-Student Liaison Committees and via the consideration of module evaluations and student surveys.

Like all schools/institutes at Queen Mary, the Schools of Geography and Biological and Chemical Sciences operate an Annual Programme Review (APR) 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 Plans (TPAP) which are the summary of the Schools' 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 and through the comments of Staff-Student Liaison Committee student members

who are invited to comment on the TPAP.

Programme-specific Assessment Regulations (if applicable)

In the case of programmes that deviate / do not comply with the Academic Regulations further information regarding the nature of any difference and/or deviation should be stipulated in detail.

N/A

Employers Links

Please provide details of any links with employers e.g.

- Details of advisory panels that include current or potential employers;
- Organisations that regularly employ graduates from this programme and the roles that graduates undertake.
- Student prizes donated by organisations that may offer employment to graduates from this programme.

If there are no links with employers consider the learning outcomes and transferable skills and explain how these might be used to inform employers about the qualities and skills a graduate from this programme might be expected to have.

The programme will provide students with knowledge and understanding relevant to employment in organisations such as Environment Agency, Defra, Natural England, Centre for Ecology and Hydrology, the water industry and environmental consultancies. In addition, the programme will equip students with a range of transferable skills and graduate 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 graduate employers.

Project work at Level 7 may include collaboration with a particular organisation in the environmental management/ water management industry allowing students to develop direct links with potential employers.

Tutorial sessions at Level 6, and Level 7 will provide opportunities for studies to identify, discuss and evaluate potential future career options and effectively communicate their skills and experience in relation to employment criteria.

Programme Specification Approval

Person completing Programme Specification

Dr Gemma Harvey

Person responsible for management of programme

Professor Cathy McIlwaine

Date Programme Specification produced/amended by School or teaching and learning committee

12 Feb 2015

Date Programme Specification approved by Programme and Module approval Board

Key

A Learning Outcome which is assessed as part of the module is denoted by a 'tick' in the above table.

K & U = Knowledge & Understanding

I Skills = Intellectual Skills

T Skills = Transferable Skills

P Skills = Practical Skills