MSc in Environmental Management
For students entering in 2009

Awarding Institution:	The University of Reading
Teaching Institution:	The University of Reading
Faculty of Science and Faculty of Life Sciences	
Programme length:	12 months
Date of specification:	December 2007
Programme Director:	Dr L. J. Shaw
Board of Studies:	Dr. L.J. Shaw, Prof. Stephen Nortcliff, Dr C.D. Collins, Dr. S.R. Mortimer, School Director of Teaching and Learning.
Accreditation:	none

Summary of programme aims
This MSc aims to provide a thorough understanding of the key scientific and socio-economic principles of environmental management and their relationships with current policy and regulatory processes. It also aims to equip students with relevant technical, research and business skills that underpin the application of environmental management in society, industry and government.

Transferable skills
The following skills are provided: information technology; quantitative and qualitative problem-solving; communication in written, visual and oral forms.

Programme content
The following profile states which modules must be taken (the compulsory part).

		Credits	Level	Term
APME58	Resource and Environmental Economics	10	7	1 and 2
SSMWEM	Soils, Waste and Environmental Management	10	7	2
APMA91	Environmental Management: Principles and Practice	10	7	1
SSMBES	Entrepreneurship and Business Skills	10	7	1 and 2
SSMLE	Land evaluation	20	7	1 and 2
LWMTEE	Environmental Law	10	7	1
SSMRP	Research Project	60	7	3 and summer vac

The following profile states which modules are recommended

		Credits	Level	Term
GGM017	Sustainable Development	10	7	2

Students should choose 50 credits from the recommended modules (above) and options in the appendix to this specification. Students must choose the optional modules, avoiding clashes on their timetable, with no less than 160 credits out of the total 180 for the degree being at level 7.

Part-time/Modular arrangements
Part time participants may either follow all the modules taught in the Autumn term in their first year and all the modules taught in the Spring term in their second years or alternatively may follow half the modules form the Autumn and Spring terms in both their first and second years. The most appropriate arrangements for the individual applications will be discussed with the Course Director. Part time students will be encouraged to consider running a long-term research

project over the two years that they are registered on the course but may carry out their research project in either their first or second year, again as is appropriate to their circumstances.

Progression requirements
None

Summary of teaching and assessment
Teaching is through a combination of lectures, seminars, practicals, computer-based self-taught exercises, site visits and talks by invited speakers. Assessment is through a combination of exams, assessed practicals, essays, scientific reports and presentations.

The University's taught postgraduate marks classification is as follows:

Mark Interpretation
70 – 100% Distinction
60 – 69% Merit
50 – 59% Good standard (Pass)

Failing categories:
40 – 49% Work below threshold standard
0 – 39% Unsatisfactory Work

For Masters Degrees
To pass the MSc students must gain an average mark of 50 or more overall including a mark of 50 or more for the dissertation. In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must not exceed 55 credits.*

Students who gain an average mark of 70 or more overall including a mark of 60 or more for the dissertation and have no mark below 40 will be eligible for a Distinction. Those gaining an average mark of 60 or more overall including a mark of 50 or more for the dissertation and have no mark below 40 will be eligible for a Merit.

For PG Diplomas
To pass the Postgraduate Diploma students must gain an average mark of 50 or more. In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must not exceed 55 credits.*

Students who gain an average mark of 70 or more and have no mark below 40 will be eligible for the award of a Distinction. Those gaining an average mark of 60 or more and have no mark below 40 will be eligible for a Merit.

For PG Certificate
To pass the Postgraduate Certificate students must gain an average mark of 50 or more. In addition the total credit value of all modules marked below 40 must not exceed 10 credits.*

* The provision to permit a candidate to be passed overall with a profile containing marks below 40 is made subject to the condition that there is evidence that the candidate applied his or herself to the work of those modules with reasonable diligence and has not been absent from the examination without reasonable cause.

Normally, candidates registered for a diploma will complete the taught courses offered in the Autumn and Spring terms and candidates registered for a certificate will complete the taught courses offered in the Autumn or Spring term.

Admission requirements
Entrants to this programme are normally required to have obtained a good (upper second) honours degree in a related field, e.g. Environmental Science, Earth / Geoscience, Chemistry, Biology, Geography and Agriculture. Applications from those with no first degree but who have previous experience may also be considered.
Admissions Tutor: Dr. A. Verhoef/ Dr. L. J. Shaw

All candidates are normally interviewed by two members of staff.

Support for students and their learning
University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@IL) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme.

Student guidance and welfare support is provided by Personal Tutors, School Senior Tutors, the Students' Union, the Medical Practice and the Student Services Centre. The Student Services Centre is housed in the Carrington Building and includes the Careers Advisory Service, the Disability Advisory Service, Accommodation Advisory Team, Student Financial Support, Counselling and Study Advisors. Student Services has a Helpdesk available for enquiries made in person or online (www.risisweb.reading.ac.uk), or by calling the central enquiry number on (0118) 378 5555. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions on everything from accommodation to finance. The Carrington Building is open between 8:30 and 17:30 Monday to Thursday (17:00 Friday and during vacation periods). Further information can be found in the Student Diary (given to students at enrolment) or on the Student website (www.reading.ac.uk/student).

Career prospects
On completion of this course, graduates may expect to find employment in the "Environmental Sector", specifically within consultancies, local government and government research agencies, industry and within academia.

Opportunities for study abroad or for placements
During their research projects, students may be based abroad or with the UK at consultancies, governmental agencies, research institutes or industrial bodies provided the Course Director is satisfied that suitable facilities and supervision are available to them.

Educational aims of the programme
The MSc aims to provide a thorough understanding of the key scientific and socio-economic principles of environmental management and their relationships with current policy and regulatory processes. It is intended that students will gain an understanding of (i) the human impact on the natural environment and natural resources; and, (ii) how that impact can be managed from a natural and social science perspective.   The MSc also aims to equip students with relevant

technical, research and business skills that underpin the application of environmental management in society, industry and government.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:	**Teaching/learning methods and strategies**
1. The interrelated nature of diverse components of the earth system and how to model and predict environmental cycles and processes 2. Environmental and natural resource problems arising from the activity of humans 3. Scientific and socioeconomic principles of the management of human impacts on natural environments 4. Managed environments and the ecosystem services they provide 5. Techniques and processes involved in site investigation and risk assessment 6. Sources, processing and disposal of waste materials 7. Issues associated with population change, pollution, resource use, poverty and climate change at global and local scales 8. Key areas of environmental law and regulation in England and Wales and Europe 9. Statistical methods and their application to environmental data 10. Experimental design and sampling strategy	Lectures, laboratory and field practicals, seminars, group discussions, videos, presentations by industrial practitioners, site visits, data handling exercises, computer-based exercises. *Assessment* Practical reports, examination, essays, computer and laboratory-based practicals

B. Intellectual skills – able to:

1. Explain how the diverse components of the Earth system interact with consequences for biogeochemical cycles and global climate.
2. Explain how environmental economics can be used to understand the processes which have given rise to environmental problems and identify appropriate policy measures to contradict them.
3. Explain the main issues and concepts associated with sustainable development and assess the process of change to more sustainable systems
4. Evaluate ecosystem services provided in a range of environments and the impact of human activities on their provision.
5. Outline strategies and procedures for site investigation, risk assessment and environmental management
6. Illustrate sources of and disposal routes for industrial and domestic waste
7. Discuss key areas of environmental law and regulation in England and Wales, including the impact of EU law
8. Plan and carry out a research project

Teaching/learning methods and strategies

Lectures, laboratory and computer based practicals

Assessment
Exams (1-7), essays (1,3,6,7), team debates (3), written reports (2,4,5), project thesis and presentation (5 and 8).

C. Practical skills – able to:
1. Analyse environmental data using classical and spatial statistical methods
2. Use computer packages to graphically present field data
3. Carry out risk assessments and site investigations
4. Use laboratory skills to characterise the biological, physical and chemical components of the environment
5. Plan and carry out a research project

Teaching/learning methods and strategies

Laboratory practicals, seminars, lectures, independent research project

Assessment

Laboratory and/or field reports (1-4), project thesis and presentation (5).

These skills are assessed primarily with reference to specific modules (see module descriptions for details) and (4) will depend on choice of optional modules and topic of research project.

D. Transferable skills – able to:

1. Produce word documents containing tables, numbered and bulleted lists, a variety of fonts, graphics and pictures.
2. Sort data and perform basic arithmetic and statistical procedures within Excel
3. Produce charts and graphs in a variety of formats using Excel
4. Produce slides for a presentation within the PowerPoint package that include text, bullet points, drawings, use of pre-set animations for the appearance of text
5. Give clear presentations on science and social science topics
6. Effectively use library and internet resources to search and retrieve information
7. Produce clearly-written scientific reports
8. Work in teams
9. Plan and carry out research projects including managing time in an efficient fashion
10. Reflect and evaluate own academic progress and its implications for career planning

Teaching/learning methods and strategies

Lectures, self-taught computer packages, seminars, tutorials, individual research projects, data exercises, team-based presentations

Assessment

Transferable skills are largely assessed indirectly through individual assignments (essays, scientific reports). Skill 9 is assessed through the individual research project and skill 10 is assessed directly for those students choosing the entrepreneurship and business skills option (see MDF for more details).

Please note - This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance processes or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.

Appendix

Streams for optional modules

Stream 1: Contaminated and built environments

code	title	convenor	term and credits	Availability 09/10
SSMQAD	Quantitative analysis of spatial data	Denise lambkin	A 10	Clashed
SSMBIO	Soil microbiology and biotechnology	Liz Shaw	A 10	Clashed
SSMCON	Soil contaminants	Chris Collins	A 10	Clashed
SS2D4	Transport processes in soil	Anne Verhoef	A 10	
GGMUE	Urban environments	Maria Shahgedanova	A 10	
SSMPSIA	Practical site investigation and assessment	Chris Collins	A + S 20	
SSMSWQ	Soils and water quality	Steve Robinson	S 10	
GG361	Aquatic environments: problems and solutions	Penny Johnes	A 20	May be a cap on numbers

Stream 2: The changing environment

code	title	convenor	term and credits	Availability 09/10
IDM073	Environmental problems and policies	Derek Shepherd	A 10	
GGMUE	Urban environments[1]	Maria Shahgedanova	A 10	
APMA48	Tropical rangeland management	Alistair Murdoch	S 10	not running
APMA51	Rethinking agricultural development	Amir Kassam	S 10	clashed
APMA90	Climate change and food systems	Timothy Wheeler	S 10	clashed
CEMRC	Carbon management	David Shipworth	S 10	clashed
GG336	Managing environmental change	Maria Shahgedanova	S 20	not running
IDM068	Extractive Industries	Gavin Hilson	S10	

Stream 3: Rural Policy and Development

code	title	convenor	term and credits	Availability 09/10
APMA41	Agriculture in the tropics	Peter Craufurd	A 10	
APMA89	Water, agriculture and irrigation	Peter Craufurd	A 10	
APMA48	Tropical rangeland management	Alistair Murdoch	S 10	not running
APMA51	Rethinking agricultural development	Amir Kassam	S 10	clashed

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[1] Only available if the MSc in Urban Sustainability runs.

REMRPP	Rural policy and planning[2]	Angela Cropley	A 10	clashed
APME61	Appraisal of agricultural and rural development projects	Srinivasan	S 10	
BIMER5	Ecological aspects of environmental assessment	Jonathon Mitchley	S 10	clashed
IDM027	Trends and issues in natural resource policy and livelihoods	Derek Shepherd	S 10	not running
APMEST	European study tour	Tahir Raman	Summer 10	

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[2] The module is currently taught with a largish group of Part 3s and the convenor is currently in the process of thinking of how to implement a split and will informof outcome when this is decided