Course Information Form (CIF)

The CIF provides core information to students, staff teams and others on a particular course of study.

Section 1 - General Course Information	
Course Title	Environmental Management
Qualification	Master of Science (MSc)
Intermediate Qualification(s)	Not Applicable
Awarding Institution	University of Bedfordshire
Location of Delivery	AA
Mode(s) of Study and Duration	Full-time over 12 or 15 months Part-time pathway typically over 2-3 years
Core Teaching Pattern	CP4/CP5/CP6 (TBC based on duration/pattern of course delivery)
FHEQ Level	Level 7
Professional, Statutory or Regulatory Body (PSRB) accreditation or endorsement	Not applicable
PSRB Renewal Date	Not applicable
University of Bedfordshire Employability accreditation	Not applicable
Route Code (SITS)	MSENMAAF (12 months); MSEMFAAF (15 months)
Subject Community	Life Sciences
UCAS Course Code	Not applicable
Relevant External Benchmarking	The benchmarking standards are provided by the Framework For Higher Education Qualifications in England, Wales and Northern Ireland Level Descriptors: http://www.qaa.ac.uk/en/Publications/Documents/Framework-Higher-Education-Qualifications-08.pdf Aspects of QAA's Subject benchmark statement for Earth Sciences, Environmental Sciences and Environmental Studies (2014): http://www.qaa.ac.uk/en/Publications/Documents/SBS-earth-sciences-14.pdf

Section 2 - Published Information

Material in this section will be used on the course web site to promote the course to potential students. The text should be written with this potential audience in mind.

Course Structure

The Units which make up the course are:

Unit Code	Level	Credits	Unit Name	Core or option
BHS015-6	7	30	Environmental Project Management	Core
BHS016-6	7	30	Environmental Management and Sustainability	Core
BHS017-6	7	30	Global Environmental Change	Core
BHS018-6	7	30	Environmental Biotechnology	Core
BHS020-6	7	60	Environmental Research Project	Core

Why study this course

In a rapidly changing world, there has never been a greater need for people to sustainably manage the environment. Whether you are a recent graduate seeking career opportunities in the environmental sector, or a more experienced professional looking to develop your range of competencies, MSc Environmental Management provides you with the knowledge and skills necessary for success. Developing and demonstrating a wide range of abilities in both taught and project work, our graduates go on to a diverse range of careers in government, NGOs, business and industry, as well as further study leading to PhD. At the University of Bedfordshire, you will develop practical skills in our well-equipped new laboratories and you will have access to the extensive grounds of our Putteridge Bury campus. Our staff have expertise in ecology, biotechnology, management and environmental microbiology, enabling specialist tuition and supervision of your practical work.

Course Summary – Educational Aims

MSc Environmental Management aims to provide you with a broad education in environmental studies, biotechnology and management. Through study of environmental sustainability and management, global environmental change and project management you will develop a comprehensive understanding of the changes happening to the environment at a range of scales and evaluate the principles and methods that underpin effective management. Additionally, you will study environmental biotechnology, allowing you to integrate your knowledge across the environmental and biological sciences and explore how biotechnology can provide practical solutions to environmental problems and develop practical skills in this area.

Your MSc research project will develop your ability to identify and critically review relevant information and enable you to demonstrate knowledge of research design, data interpretation and appropriate use of analytical techniques. You will also be expected to present your findings in the broader context of published work within this field.

You will develop essential transferable skills through group work, group discussions, and various other learning activities throughout the course. You will also demonstrate effective time-management and organisational skills to meet deadlines, and develop your confidence in tackling novel tasks and in presenting clear summaries of your understanding in both oral and written form. You will be given the opportunity to consider your learning in the context of your future career, not only through your research project, but also through guest lectures from relevant employers and external speakers.

Entry requirements

Standard:

Standard entry requirements for UK students – http://www.beds.ac.uk/howtoapply

Students from the European Union - http://www.beds.ac.uk/howtoapply/eu/guides

International students - http://www.beds.ac.uk/howtoapply/international/apply

PSRB details

NA

Graduate Impact Statements

The course has been designed to develop you as a graduate who is able to:

- Apply a critical understanding of the ways in which the global environment is changing and what can be done to mitigate and manage such change.
- Apply principles and methods relating to environmental management to new scenarios at a range of spatial and temporal scales.
- Demonstrate independence and initiative in research activities whilst working effectively within a collaborative environment.
- Review developments within the scientific, management or policy literature and incorporate these ideas into their professional working practice.

Higher Education Achievement Report - Additional Information

NA

Learning and Teaching

The course is delivered by a blended learning approach in line with other courses in this field.

- Scheduled teaching combines lectures to deliver new ideas and subject material, seminars that involve students-led discussions and activities to support your learning and field and laboratory practical work in which you apply your learning to experimental science and develop technical skills relevant to environmental management.
- During the Environmental Research Project you will develop your own independent hypotheses and proposals and conduct a substantial piece of independent research. You will be supported through regular meetings with your project supervisor as well as small-group tutorials to develop your skills.

An essential component of MSc degrees, highly valued by employers, is the development of independence. This course therefore involves a considerable emphasis on Guided and Independent Learning which develops across the course.

- Guided Learning involves you being provided with directed reading or research activities to consolidate your learning; formative assessment which is marked to provide feedback but is not graded; and guided assessment where you will be graded on the work you produce based upon detailed guidance provided by your lecturer.
- Independent Learning requires that you read around the topics of your study using the essential and recommended reading resources (or through finding your own learning materials – Autonomous Learning) to consolidate your understanding. You must also demonstrate independent research and learning in your Research Proposal and Research Project.

Developing your employability

The majority of lecturing staff are actively engaged in scientific research, and have previously worked in academic, government, charity or industry research. Our teaching and the course are therefore directly informed by our research knowledge and activities. Some key aspects of the course that emphasise employability of our graduates include:

- Training in key techniques relevant to employment within the environmental sector, including awareness of relevant health and safety, legal and ethical considerations.
- Training and practice in the scientific method that underpins all scientific research (developing novel hypotheses, testing these by experiment, accurately interpreting data and understanding error, and

drawing valid conclusions).

- Practice in professional standards of reporting, including laboratory reports using the standards of professional research publications, preparation of scientific conference posters, and written and oral presentations. You will also develop your writing in a professional consultancy style, providing you with the opportunity to learn the subtle differences required when writing for different professional audiences.
- Maintenance of laboratory or field diaries and research diaries following standard practice within the sector.
- Guest lectures from external speakers from academic and industry.

Many of the skills you will develop are applicable to professions away from the subject itself. The ability to research complex information, analyse data and write professional reports are highly valued and our students are encouraged to think about potential careers in a wide variety of sectors.

Department (s)

Department of Life Sciences

Assessment

A range of assessment types are used across this course.

- Practical reports are a key assessment type used throughout the course as they reinforce professional standards of presenting scientific reports, practice your ability to interpret data and to place experimental results within a broader scientific context, develop your ability to relate experimental results to theory, and teach you to apply the scientific method.
- Consultancy-style reports develop your writing for non-academic professional audiences.
- End of year exams are included in all units (except the project) with essay-style questions focussed on integration and evaluation of understanding.
- Oral presentations to small groups or to examiners in a viva voce setting and academic poster presentations (a standard style of scientific conference presentation) will develop your portfolio of communication skills.
- Case studies are used within assessments where appropriate to provide real-world and employment-centred context to the assignments.

After Graduation

On completing this course you are likely to progress into one of the following areas:

Career:

Local or national government.

Non-governmental organisations.

Environmental consultancy and strategy.

Construction and other development industries.

Waste management.

Further study:

PhD research in a range of environmental or biological sciences.

Student Support during the course

You will be given a full induction week programme in the week prior to starting your course, during which you will be introduced to the Department of Life Sciences' academic, technical and administrative staff. You will be given information about how the department operates, and you will undertake some formative laboratory work and receive health and safety training. You will also be given specific information relating to the

delivery of your course, and will be shown how to access your timetable. Other presentations during the induction week will be given by representatives from the Student Information Desk (SID), the Learning Resources Centre (LRC), the Professional and Academic Development (PAD) team, and the Student Union.

You will continue to receive transferable skills training throughout the course and especially through the research project. This training will include further guidance from representatives of the Learning Resources Centre (LRC) and Professional and Academic Development (PAD) team to help improve information literacy, referencing and report writing skills.

BREO (the University's Blackboard based Virtual Learning Environment - VLE) provides a great deal of help and back-up material such as lecture notes, additional background information on all units, revision material and formative assessments, as well as containing all the administrative material you need such as the Unit Information Forms and regular announcements. For some units, BREO may also contain discussion boards or other e-learning activities.

All units will have specialised tutorial sessions when you can further explore subjects or issues related to assessment or other content of the unit. The Department also puts on extra tutorials when groups of students request them. In addition, all Unit Coordinators/Lecturers have at least two "office hours" sessions a week when you can book a time, through the Faculty Office to discuss unit-related issue(s). Each course also has two student representatives that can convey any specific or general student issues that are not resolved through any of the above support mechanism or you wish to bring to the attention of staff through a third party. Lastly, if you have not managed to find the support necessary through any of the above Departmental or University processes (as detailed in the Course Handbook, Department of Life Sciences Community on BREO) then you can arrange to see the Course Coordinator and/or Portfolio Leader by booking a time directly or through the Faculty Office.

Students who require English Language Support:

It is recognised that some students entering the course, despite having the requisite English language entry qualification may require some extra support in their academic use of the English language. Students may be asked, at the discretion of the Course Coordinator, to undergo diagnostic testing for academic English language abilities, and may further be required, at the Course Coordinator's discretion, to participate in academic English support workshops or classes laid on by the University. Such support can be obtained through the Professional and Academic Development (PAD) team, who run a number of workshops including language skills, writing practice and exam preparation. Further information on these services can be found at http://lrweb.beds.ac.uk/studyhub.

Students with disabilities

Students with a wide range of disabilities or health conditions can achieve the required standards of knowledge and skills to enable them to gain an MSc in Environmental Management, but it needs to be recognised that each case is different and has to be viewed on its merits. The safety of students, staff, the public and other colleagues must always take priority.

Appropriate individual arrangements will be made for students with disabilities to enable their full participation in practical activities, field trips and laboratory work and other activities associated with the course wherever possible. However, learners with certain specific disabilities may be excluded from studying this course.

Some examples of support structures available at the University for various types of disability are shown below – though the specifics of the support provided will vary for each individual.

Dyslexia:

Staff at the University have experience of supporting learners with dyslexia and many students cope well with the amount of reading / writing required for MSc degrees. Additional time can be given, for example, in written examinations.

Sensory Impairments:

Impaired vision: although students with colour blindness and monocular vision should be able to cope with the demands of the course, those with severe visual impairment are unlikely to be able to access this degree programme due to the practical demands in the field and the laboratory.

Hearing Impairments: as long as the individual has developed appropriate coping strategies and makes use

of appropriate aids they should be able to study on this programme. However, Admissions staff will need to consider the individual's ability to communicate with others, as well as their ability to cope in a range of contexts so as not to be a danger to themselves or colleagues.

Physical Disabilities:

Absence or partial loss of a limb: On its own, this would not necessarily stop an individual from joining this course. However, the individual's ability to handle equipment safely will need to be considered by Admissions staff.

Wheelchair users: An individual who is permanently based in a wheelchair would have considerable difficulty in safely working in the laboratory and field some locations. Due to the practical nature of some components of this course, whilst every reasonable accommodation will be made, access to the course will need to be considered by Admissions staff on a case by case basis.

Further guidance is available from the University's current Disability policy at

http://www.beds.ac.uk/studentlife/current/disabilities.

Assessment Map

Unit Code		Weeks																									
	C/O	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BHS015-6	C					A1			A2			A3															
BHS017-6	C		A1					A2				A3															
BHS016-6	C																	A1						A2			A3
BHS018-6	C																				A1			A2			A3

or (February/March course start)

Unit Code		Weeks																									
	C/O	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BHS016-6	C		A1						A2			A3															
BHS018-6	C					A1			A2			A3															
BHS015-6	C																				A1			A2			A3
BHS017-6	C																	A1					A2				A3

and

Unit Code		Weeks																									
	C/O	35	36	37	38	39	40	41	42	43	44	45															
BHS020-6	C										A1 A2	A3															

Notes

1. Units BHS015-6 and BHS017-6 run during the period October to January while units BHS016-6 and BHS018-6 run during the period February/March to May/June so the order in which units are taken depends on when you join the course.
2. Indicated weeks are submission weeks. A1 is assessment 1; A2 is assessment 2; and A3 is assessment 3.

Section 3 - Academic Information

This section will be used as part of the approval and review process and **peer academics** are the target audience.

Course Learning Outcomes

Upon successful completion of this course, graduates should be able to:-

1. Demonstrate systematic understanding and a critical awareness of biological, ecological and socio-economic drivers of global environmental change, and how these are interrelated.

2. Show significant knowledge of the principles and methodologies of environmental biotechnology and the ability to critically evaluate and identify technologies applicable for sustainable management of global environmental change.

3. Independently apply modelling, mapping and prediction approaches to environmental management.

4. Critically evaluate methods of managing environmental change at local to global levels, including legislative management, voluntary management and economic management.

5. Independently plan, undertake, analyse and report on an environmental management project and associated impacts.

6. Synthesise and effectively use information from relevant sources and to independently and critically evaluate current research and contractual reports in key areas underpinning environmental management.

7. Effectively communicate work both orally and in written form to a range of applicable audiences (e.g. academics, environmental stakeholders, business leaders, government bodies).

8. Work independently, as well as in groups or teams, including the ability to recognise, respect and critically evaluate opinions expressed by others and emerging ideas and concepts.

Course-specific regulations

Normal University regulations apply.

Teaching, Learning and Assessment

Teaching and Learning

The teaching and learning philosophy of MSc Environmental Management is guided by the recommendations of the aspects of QAA statements for Earth Sciences, Environmental Sciences and Environmental Studies and also takes elements from the QAA statements for Biosciences. A balanced selection of teaching and learning techniques are employed throughout the course, including:

- Lectures;
- Fieldwork;
- Laboratory classes
- Workshops;
- Seminars;
- Tutorials;
- Independent assignment-based learning;
- Auditable, directed private study;
- Team-working;
- Independent project work.

Delivery makes use of BREO, the University's Blackboard-based virtual learning environment (VLE). In line with University policy, all units in the Department have a VLE site containing unit and assessment briefing documents and details, announcements/notices and visual material used in teaching sessions.

The course supports meaningful learning through a curriculum that is intellectually challenging and of practical relevance to those seeking a future career in areas of environmental management. The course is designed to encourage a reflective, student-centred approach to learning. The course incorporates some of the latest developments in the subject with students being referred to the latest books, papers in research journals and government/NGO reports as sources of information. As such the course will be challenging in introducing new ideas and concepts.

Students will be active in their learning through interaction in lectures, seminars, tutorials, workshops, participating in laboratory practical and in preparing the assessments. Students will be encouraged to be reflective in their learning by seeking to integrate the academic content of the different units on the course and reflecting on the implications of pharmacology on society. Students are encouraged to interact with the research active teaching team. Field and laboratory sessions are also good environments for student communication within the cohort making the learning process a collaborative effort.

The lectures, seminars, tutorials and practical sessions for full time students will take place at the University's Luton campus. Students will have the opportunity to carry out a filed, laboratory or desk-based research project under the supervision of a named academic supervisor.

Assessment
The assessment philosophy of MSc Environmental Management conforms to the recommendations of the aspects of QAA statements for Earth Sciences, Environmental Sciences and Environmental Studies and also takes elements from the QAA statements for Biosciences. The methods used for the assessment of students' achievements will correspond with the knowledge, abilities and skills that are to be developed through their degree programme. Both formative and summative modes of assessment will be used. The course assessment strategy is compliant with the University of Bedfordshire's Regulations. All assessed work will be marked using the University's percentage based marking scheme.

Evidence on which assessment of student achievement is based will include:

- Formal written examinations;
- Written reports, including scientific and consultancy-style reports;
- Oral presentations;
- Poster presentations;
- Individual planning, conduct and reporting of project work; and
- Essay assignments.

The commitment to field and lab-based practical skills and the ability to communicate and interpret data through scientific and professional report writing is emphasised at throughout the course. As such, written reports based on field or laboratory work form an important element of student assessment. The importance of oral communication skills is also acknowledged, and four units require oral or poster presentations as a part of the unit assessments.

Students that fail to successfully complete the initial taught units may not be eligible to progress to the laboratory based research project stage of the course; this is determined by the University's regulations. Students who do not initially progress will be expected to undertake either referral assessments or, if necessary, retake failed units (no student can retake a unit more than once). When students pass the number of other units prescribed by the regulations, they will be able to undertake their laboratory based research project.

Additional Academic Information

Peer-assisted learning (PAL)

PAL is not incorporated into this course.

Initial Assessment

Formative discussion and feedback will be available to all students prior to summative assessment. In each term, the first assessment is conducted after six weeks. This allows all students to gain feedback on their work early in the course and to experience the process of Turnitin submission. Feedback is returned to students prior to the submission of their next summative assessment.

Improving students' learning

A fundamental aspect to University study is independent learning. Students will attend lectures for the primary explanation of theoretical concepts, and are expected to make their own comprehensive notes and to further read around the subject from the recommended textbooks in your independent learning. Students are recommended to apply active learning techniques by applying their learning to such activities as answering practice exam questions, preparing summary diagrams or bullet point lists, or explaining concepts to someone else.

Students will receive tutor-supported seminars and practical activities to reinforce and apply your subject understanding. Under a blended learning approach lectures and seminars may include the use of videos or web sites, practice assessments, or interactive sessions designed to support your learning. You should also search for and identify your own learning resources as appropriate.

Students will identify their own areas of weakness and will be encouraged to be proactive in seeking support and training to improve these. This may take the form of further independent learning, requesting tutorials or revision of the topic with your lecturer, or attending workshops and training with the Study Hub Team. Students should also maintain a laboratory diary of your practical work, and reflect on the development of their skills throughout the course.

Academic Integrity

Guidance about academic integrity including plagiarism will be given during the induction week, and advice on correct academic practice will be available through the Academic Integrity Resource, a VLE-based training system. Further support about assessment requirements will be provided in the Skills units and in the assignment briefings for each assessment. Where required additional training can be sought through the Study Hub Team.

HEAR implementation

NA

Internationalisation

Environmental management field and laboratory techniques and the scientific method approach to research apply in countries across the globe. Thus the fundamental basis of this degree course is inherently internationalised. The course encourages the development of skills and competencies transferable to any country (e.g. the principles and process of site surveys), rather than those applicable only to the UK (e.g. floristic surveys for UK habitats). Much of the curriculum emphasises global environmental issues and assessments have been designed to enable students from different backgrounds and countries to select case studies of most interest and relevance to them while demonstrating their knowledge and understanding.

Sustainability

Many of the themes and principles covered in the course require students to consider environmental sustainability and this is also encouraged within their own professional practice. The course team aim to minimise the environmental footprint of our activities by, for example, using public transport where possible to get to field-work locations.

Section 4 - Administrative Information

This section will be used as part of the approval and review process and peer academics are the target audience.

Faculty	Creative Arts, Technologies and Sciences
Portfolio	Postgraduate Life Sciences
Department/School/Division	Life Sciences
Course Coordinator	Dr Nicholas Worsfold
Version Number	1/15
Approved by (cf Quality Handbook ch.2)	TQSC (transition review)
Date of approval (dd/mm/yyyy)	10/02/2015
Implementation start-date of this version (plus any identified end-date)	2015/16

Form completed by:

Name: ……Dr Nicholas Worsfold……Date: …May 26th, 2015

Authorisation on behalf of the Faculty Teaching Quality and Standards Committee (FTQSC)

Chair: …… Date: …..……

Course Updates		
Date (dd/mm/yyyy)	**Nature of Update**	**FTQSC Minute Ref:**