

PROGRAMME SPECIFICATION for an award of the University of East Anglia						
1	Title	Applied Ecology - International Programme				
2	Course Code(s)	T1C180103				
3	School (s)	Environmental Sciences				
4	Faculty	Faculty of Science				
5	Date of first student intake	Not Applicable – current course, already available				
6	Award	MSc				
7	Interim Award/ degree title	Standard	Certificate of Higher Education and Diploma of Higher Education (UG); Postgraduate Certificate or Postgraduate Diploma (PG).			x
		Non- standard (detail)				
8	Level	Level 6 FHEQ (Bachelors)				
		Level 7 FHEQ (Masters/Integrated Masters)				
		Other (specify)				
9	Award Regulatory Framework	Bachelors and Integrated Masters				
		Common Masters Framework				x
		Other (specify)				
		Award Regulations are published in the Calendar				
10	Course-specific regulatory requirements	N/A				
11	Length of course	1 year full-time				
12	Board of Examiners	https://portal.uea.ac.uk/learning-and-teaching/staff/assessment/exams/board-of-examiners				
13	Mode of Attendance	Full-time	x	Part-time		Other
14	Professional Accreditation details	N/A				
15	Placement information	Professional placement				
		Year Abroad				
		Year in Industry				
		Semester Abroad				
		Other				

		None	X
16	Relevant Subject Benchmark	Web address of the relevant QAA subject benchmark which has been used to inform the academic content and learning outcomes of the course. http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx	
17	Course Description	<p>The European Masters programme in Applied Ecology at UEA is a full-time programme and consists of a total of 180 credits. Students will study from a range of modules offered across two Schools. At UEA the programme will be administered by ENV but will be forged across ENV and BIO.</p> <p>For this programme, there is one optional module that is work based. The dissertation may also involve some work-based study. The first part of the programme includes 30 compulsory taught modules credits, and 70 optional credits. These modules will be taken in either ENV or BIO.</p> <p>In the second part students will undertake a research project. This can be carried out within the University, or in collaboration with an outside institution. The project is written up as a paper and this dissertation, together with a seminar presentation on the project, is worth 80 credits. In the dissertation module students learn research skills and have to complete a project proposal in preparation for the dissertation project. Students are expected to work for between 2 and 3 months, with approximately 40 hours a week collecting or processing data for their project. When they have completed the data collection/processing component they are expected to spend a further 1 to 2 months writing up their project, spending 40 hours a week in personal study time. EU funded students can spend April-June in partner institutions part of the IMAE programme (University of Poitiers- France, University of Coimbra-Portugal, Christian-Albrechts University of Kiel-Germany, University of Rio Grande do Sul-Brazil, University of Adelaide -Australia, University of Otago -New Zealand, University of Quito- Ecuador. Self-funded students can do their projects anywhere in the world.</p>	
18	Course Profile details	The purpose of the MSc in Applied Ecology is to provide a flexible course structure, within defined limits, suitable for students who wish to acquire skills necessary for a range of careers in applied ecology. A modular structure facilitates option choices within this single programme. The multidisciplinary	

nature of the programme means that students can learn from many areas of expertise across the schools, Biological Sciences and Environmental Sciences. Students learn a practical approach to ecological and conservation management issues, integrating knowledge gained from theoretical teaching with practical learning.

The MSc programme is designed:

- to help students develop a wide range of practical, numerical and transferable skills relevant for a career in ecology and conservation
- to give students the opportunity to interact and learn from staff doing state-of-the art research in ecology, evolution and conservation
- to cultivate in students originality in the application of knowledge and to pursue this in relation to the general intellectual skills of reasoning, self-expression, numeracy, computer literacy, group work and independent research;
- to foster self-direction and originality in systematically solving problems while acting autonomously at a professional level;
- to maintain the central role of research to inform teaching and to involve students in issues at the frontier of research;
- to provide a high quality degree programme which combines intellectual challenge and relevance to current interdisciplinary issues in applied ecology;
- to provide a choice of teaching modules that allows students to demonstrate initiative and personal responsibility in constructing an education appropriate to their varied background interests and continuing professional development;

The programme offers an opportunity to students to develop specific skills in key areas through a range of optional modules at the beginning of the programme. Options are taken with agreement by the Programme Director. Specific skills and outcomes from the programme will therefore depend on the optional modules chosen, but will all be assessed at the same level.

Details of all courses currently offered by the University are available at <https://www.uea.ac.uk/study/undergraduate/degrees> and <https://www.uea.ac.uk/study/postgraduate/taught-degrees>

19	Learning Outcomes	<p>The course provides opportunities for students to develop and demonstrate knowledge, understanding, cognitive, subject specific and key skills and other attributes in the following areas:</p> <p>Knowledge and Understanding</p> <ul style="list-style-type: none"> • Applied Ecology within an interdisciplinary framework (a) • Processes governing present and past interactions between living organisms and their biotic and abiotic environments (b) • Human-induced environmental change (c) • Technical approaches to presenting and interpreting ecological data (d) <p>Cognitive Skills</p> <ul style="list-style-type: none"> • Comprehension of complex ecological processes (a) • Visualisation and interpretation of large data sets (b) • Identification and solution of ecological problems (c) • Reason analytically (d) • Show independence of thought (e) • Understand ecological paradigms (f) <p>Subject Specific/Practical Skills</p> <ul style="list-style-type: none"> • Undertake search and selection of scientific literature and data (a) • Use information technology for scientific study (b) • Collect and collate information from a variety of sources (c) • Design and implement laboratory or field programmes or questionnaire-based surveys (d) • Apply statistical and mathematical analysis to quantitative and qualitative data (e) • Use conceptual and numerical models to explain complex ecological processes (f) <p>Key Skills</p> <ul style="list-style-type: none"> • Develop project management skills (a) • Develop oral and written presentational skills (b) • Develop personal skills such as time management, team working and assertiveness (c) • Develop skills in searching for employment, including CV preparation and interview techniques (d)
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Knowledge and understanding

- a) To provide a detailed understanding of the importance of ecological processes and biodiversity.
- b) To impart an in-depth understanding of the ecological principles underpinning modern conservation science.
- c) To provide an in-depth understanding of the uses, assumptions and limitations of advanced statistical and modelling procedures relevant to ecology and conservation.
- d) To have a broad knowledge of the range of sampling census and survey techniques available.
- e) To achieve a comprehensive understanding of research-based applied ecology within an interdisciplinary scientific framework.
- f) To provide clear awareness of the ecological consequences of climate change.

Teaching is through a combination of lectures, seminars and fieldwork. Many lectures use traditional methods of commentaries to PowerPoint, while others involve group discussions or other workshop-based techniques. Seminars involve presentations and group discussions. Field work generally includes trips to local sites; such trips ensure interaction with staff and let students see at first hand examples of applied ecology and conservation. Directed student-centered learning is encouraged using the web, library and other facilities. The dissertation is an independent research project that permits the in-depth acquisition of knowledge and the opportunity to integrate understanding of a selected topic. Teaching is by direct one-to-one contact with a supervising member of staff, feedback by phone, Skype and email during data collection, and direct contact for guidance while writing up.

Cognitive Skills

Able to:

- a) Critically apply ecological theory to practical management situations.
- b) Solve complex ecological problems.
- c) Frame hypotheses
- d) Test theory with observation
- e) Analyse and interpret diverse data
- f) Apply numerical and reasoning skills

		<p>g) Demonstrate and critically evaluate research design</p> <p>h) Critically review scientific literature</p> <p>i) Bridge disciplines (think flexibly and laterally)</p> <p>j) Show broad independence of thought, initiative and creativity</p> <p>k) Develop advanced knowledge and understanding</p> <p>Intellectual skills are developed by direct contact with lecturers who are frequently internationally recognized researchers in applied ecology. Staff from several different schools are involved in the programme, which help students learn to bridge disciplines. Throughout the programme modules involve work of an applied nature. Students are expected to read scientific literature and apply this to specific scenarios. They are expected to interpret data and to assess critically specific applied problems. Many of these skills are developed through group discussions. Research design and analysis are brought together in the compulsory research project which must have clear applied ecology management implications. As preparation for the research project students write a research proposal allowing them to devise hypotheses and develop their skills in research design. The dissertation, as a report on the project, allows students to develop their skills in applying their knowledge to a specific area and to think independently.</p> <p>Subject Specific Practical Skills</p> <p>a) Plan and manage an applied research project within applied ecology and evaluate management implications.</p> <p>b) Critically assess applied ecology issues for given situations.</p> <p>c) Complete an ecological census of any given environment.</p> <p>d) Write assessments in specific applied formats.</p> <p>e) Give seminar presentations.</p> <p>f) Demonstrate field-based skills and follow safety procedures.</p> <p>g) Apply and evaluate statistical treatment to scientific data.</p> <p>h) Use information technology for scientific study and presentation.</p> <p>i) Undertake search, selection and evaluation of scientific literature and data.</p>
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		<p>Much of this course emphasises practical skills learning and is orientated towards training in applied ecology and conservation. Many modules have practical components specifically directed to the development of practical skills. This is the case, for example, for Ecological Census Techniques, GIS and its Applications to Modelling Ecological and Environmental Change and Statistics and Modelling for Scientists using R. The optional module Practical Conservation and Work Experience is designed to allow students to experience the working environment at an organisation of their choice and reflect on their experience. This may result in future job opportunities. In addition, practical skills are taught centrally by the University and School: introductory sessions on the use of the University Library resources and IT facilities are provided. Practical training in using word processing, spreadsheets, and specialist software such as PowerPoint, is given as part of the Research Skills for Ecologists module. Specialist training, required for individual research projects, is provided on an individual basis by the research project supervisor.</p>
20	Graduate Attributes and Employability Skills	<p>This programme is part of a two year EU MSc programme. The majority of the students completing the Applied Ecology-International Programme at UEA decide to pursue research and obtain a PhD studentship within a couple of years of completing their degrees. One third of our post-graduates chose careers in conservation and work for national or international governmental and non-governmental organisations. Others decide to work in industry or for consultancies. Our students gain a diversity of skills (e.g. analytical and practical, see above) including how to apply for funding to support and pursue their own independent ideas.</p>
21	Assessment and Feedback Strategy	<p>Most of the assessment is through coursework only. Assessment methods are generally applied to skills required in practical or research occupations. Examples include writing a research proposal, grant application or work report. Some optional modules assess students through course tests, contribution to seminars (directed group discussions) and poster presentations. A few optional courses are part-assessed through examination. All coursework is double-marked. The project is assessed through a PowerPoint presentation to an academic audience and the writing of a dissertation in the form of a research paper.</p> <p>Intellectual skills are assessed throughout the course. Most pieces of coursework assess the students' ability to apply information to applied ecology or management situations. Some</p>

		<p>optional modules, which are chosen with the Director's approval, assess the student's knowledge and understanding through seminars (directed group discussions), while some compulsory modules use student's PowerPoint presentations as a form of assessment. Numerical and reasoning skills are assessed through problem-solving exercises. The research project gives students the freedom to design, implement in the field, analyse and write up results on an applied topic of their choice, allowing assessment of cognitive skills at the highest level.</p> <p>Practical skills are assessed through coursework where students are expected to critically evaluate techniques and methods. The ability of students in practical skills, such as course techniques, is reflected in the quality of their coursework. Reports and other forms of coursework, such as seminars (directed group discussions), are assessed in part, on the skill with which bibliographic material has been obtained and discussed within the context of the assignment. Students are also assessed on the application of practical skills to the ecological problem being addressed. Analytical assignments allow the assessment of statistical and numerical skills to solve applied problems. Some optional modules assess the ability of the students to give a seminar, and in some compulsory modules students give a presentation, both of which involve then assessment of practical skills. The independent project (skill 1) calls upon the majority of the practical skills acquired, since without these skills of project planning and management, the project would be below the required standard, and allows an overall assessment of the student's practical abilities as an applied ecologist.</p> <p>Key skills are assessed generally within course assessments and the research dissertation. Effective learning of key skills is reflected in the quality of work produced. In addition, good planning and management of the research project are also assessed as they reflect on the overall quality of the research carried out and presented. Group discussions and seminar activities, in both compulsory and optional modules, assess students' ability to be communicative, reflective, assertive and responsive. Communication ability is also assessed through student presentations.</p>
22	Additional course-specific costs that students should expect to meet	There are no course-specific costs, all costs are included. UEA provides funding to cover the costs associated to the dissertation field work (when applicable). In some cases dissertation projects may require funding to be sought from other sources. Students selecting projects that require extra

		funding will need to apply for extra funds from other organisations.
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For Office Use		Programme Specification Update Record	
Faculty	Faculty of Science	School	Environmental Sciences
Course Code(s)	T1C180103	Degree Award	MSc
Course Title(s)	Applied Ecology - International Programme		
Log of annual review - Version and date of production/ revision		<p>The Programme Spec should be reviewed annually and the review logged here:</p> <ol style="list-style-type: none"> 1) If there is no change, no new version is required. 2) If there are any changes, the version number should be incremented, and a summary of the changes recorded here. This should include a summary of any course profile changes. 	
Review Date	Course Director sign off		
21.6.17	Dr Ros Boar	Signed off by DLT for publication on the website	
12.06.17	Dr Aldina Franco	Reviewed, minor changes	
Last active academic year		To be completed if course is discontinued	
Date archived		To be completed if course is discontinued	

For Office Use: Admin Action (post-approval publication and annual review)	Date	Name
Course Profile updated on eVision (Team Leader)		
Programme Specification placed in shared drive folder (Team Leader)	27.06.17	R.Rogers, LTS
Web link to External Examiner information added (LTS Web administrator)		
Programme Specification uploaded onto website (LTS Web administrator)		
Planning Office informed of upload of Programme Specification onto website (LTS Web administrator)		