

**PROGRAMME SPECIFICATION FOR
AWARDS MADE BY THE UNIVERSITY OF EAST ANGLIA**

SECTION A: SESSION: to start in September 2011		
A1	Course Name	Sustainable Agriculture and Food Security
A2	Final Award <i>(e.g. BA/BSc(Hons)/ MA/MSc etc)</i>	MSc
A3	UEA Course Code(s)	
A4	UCAS Course Code(s)	
A5	Professional Award <i>(if any)</i>	n/a
A6	School of Studies	BIO

SECTION B: SUMMARY OF COURSE STRUCTURE AND FEATURES

B1 Summary

There is clear evidence that feeding the world's population will require a doubling in agricultural output over the next 40 years. At the same time there is growing awareness of the need for agriculture to be sustainable, and for the UK to be able to guarantee the supply of food for its own population. For the UK, this means that agriculture should contribute to meeting the targets for reducing greenhouse gas emissions, reduced pollution, whilst at the same time maintaining the countryside and its biodiversity, and increasing output. Every country on this planet is facing similar challenges.

The course is intended for students who do not necessarily have an academic background in agriculture or related sciences, but who wish to learn more about, and contribute to, the challenge of sustainability and food security.

This one-year MSc in Sustainable Agriculture and Food Security will provide students with the necessary historical background to understand the current situation, an awareness of modern agriculture and those practices in particular that contribute towards sustainability and food production, as well as the legislative framework that influences agricultural practices in the UK.

The first part of the program is through lectures, field visits, and workshops. The second part consists of individual research projects which will involve meta-analysis of published

data, and each will address a question relevant to sustainability and food security. The project will contribute one third of the total MSc credit.

Throughout the course students will develop transferable skills in presentation, problem solving, communication, self-management, teamworking, numeracy, the application of IT, and time management. They will also participate in personal development sessions. All of these will contribute to the employability of graduates from the course.

The teaching program will be supported by world class research centres including the John Innes Centre, The Sainsbury Laboratory, The Food Research Institute, Rothamstead Research Institute, The Agriculture Group, the National Institute of Agricultural Botany, and others. These will provide specialist lecturers, supervise projects, and provide demonstrations of sustainable agriculture and the breeding of crop varieties for the future.

Assessment will be through coursework, including course tests, assignments and presentations, as well as through assessment of the research project.

The course consists of a 180 credits and will be completed on a full-time basis, in accordance with the course profile (Section D1). Criteria for the award of credit are laid down in the CMF.

The 180 credits is gained by taking:

- a) the compulsory modules listed in section D1 making up 160 credits AND
- b) an additional 20 credits chosen from option range A, as listed in the course profile in section D1.

SECTION C: EDUCATIONAL AIMS AND OUTCOMES

C1	<p>Educational Aims of the Programme <i>(Include any distinctive/innovative features/route pathways)</i></p> <p>This one-year MSc in sustainable agriculture and food production is intended to give students an understanding of current agricultural systems and how these have developed, the challenge of sustainability and food security, with particular reference to the central issues of improving food production whilst at the same time reducing fossil fuel and fertilizer use, pollution, greenhouse gases and adverse environmental impact. Together these represent some of the most important challenges we face.</p> <p>The program is designed for graduates from a variety of scientific disciplines who wish to understand the principles of sustainability and food security. The course includes laboratory-based training, as well as field trips to farms and to relevant agriculturally-based industries and research centres. The course is based around research training in meta-analysis: drawing general conclusions relating to sustainability and food production from the existing published information. Key elements will therefore be: the presentation of analyses as reports, formal verbal presentations, through working in groups and seminars.</p> <p>The primary objectives of the course are to:</p> <ul style="list-style-type: none"> • provide a high-quality and challenging degree program which addresses a range of current issues in agriculture and sustainability in food production • enable students to enhance their intellectual skills through learning and lectures, seminars, field trips, and discussion with researchers • equip students with non-laboratory research skills • enhance skills in critical analysis to provide reports for decision making • develop transferable, employability skills in self-expression, numeracy, computer literacy, team working and independent research • to acquire skills in forming scientific hypotheses and in testing these through research of the literature • to develop skills in communication of information to peers and non-specialists
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C2 Course Outcomes	
<p>C2(i) Knowledge and understanding</p> <p>a. Traditional and contemporary agricultural practices</p> <p>b. How historical practice in agriculture has shaped contemporary practice</p> <p>c. How to calculate energy inputs in agriculture</p> <p>d. Nitrogen fertilizers: benefits and hazards</p> <p>e. Chemical control of pests and diseases</p> <p>f. Organic farming and GM (genetic modification)</p>	<p>Teaching/learning methods and strategies</p> <p>Teaching is through lectures, field trips, workshops, seminars, tutorials, and research project.</p> <p>Lectures are generally linked to slide and Powerpoint presentations with handouts. Field trips give first-hand experience of contemporary agricultural practice. Seminars provide students with opportunities for peer led group discussions to confirm and correct their knowledge and understanding. Students will also work together to appraise each other's essay writing and presentation techniques and to share their development of information technology skills. Self</p>

<p>g. Agriculture and biodiversity</p> <p>h. Agriculture and the countryside</p> <p>i. Key demographics, in population growth, food consumption, local food production</p>	<p>directed learning and group learning is a central feature of the research modules. The research projects will bring together the various elements covered in the earlier modules.</p> <p>Assessment The assessment of all modules is by coursework. This includes assessment of written reports, essays, course tests, data handling exercises, written and oral reports, dissertations, participation and presentation in seminars and assessment of the conduct of the research project.</p>
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<p>C2(ii) Cognitive Skills</p> <p>a. Assimilation of information as a platform for self-directed learning</p> <p>b. Critical evaluation of research and literature relating to agriculture and food production</p> <p>c. Applying numerical and reasoning skills</p> <p>d. Presentation, storage, and handling of quantitative information</p> <p>e. Development of knowledge and understanding</p> <p>f. Review published information and drawing summaries and conclusions</p>	<p>Teaching/learning methods and strategies</p> <p>Cognitive skills are developed in all modules through analysis and critical evaluation of published data in workshops, seminars, and in the production of reports. The critical assessment of existing knowledge is also developed in essays and seminars.</p> <p>→ Students also develop their cognitive skills, as well as their presentation skills, through oral presentations in seminars and workshops.</p> <p>The research project module develops an understanding of research design; the dissertation and oral presentation provide the challenge of bringing all relevant cognitive skills together.</p> <p>In all modules students receive appropriate feedback from academic staff (at UEA and other research institutions as listed) which is an important process in the development of their cognitive skills.</p> <p>Assessment Through: - Essays, reports and course tests which assess student ability to apply information to specific questions - seminars to assess ability to contribute to group discussion. - Data handling exercises to learn effective</p>
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	<p>numerical and reasoning skills.</p> <p>- The research project and associated research skills module affect students' ability to form and test hypotheses and to evaluate results of multiple published studies, and the challenge of dealing with often conflicting results.</p> <p>Progress is monitored through regular meetings with advisers and supervisors.</p>
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<p>C2(iii) Subject Specific Practical Skills</p> <p>a. Methods of lifecycle analysis</p> <p>b. Evaluation of software tools for lifecycle analysis</p> <p>c. Calculation of energy inputs in agricultural systems</p> <p>d. Methods of the meta-analysis</p> <p>e. Evaluation of reliability of published data</p> <p>f. Accessing information collected by government agencies</p> <p>g. Use of software packages for presenting scientific data</p>	<p>Teaching/Learning methods and strategies</p> <p>A central element of the teaching method is hands-on sessions with the students to access electronic databases, library resources, resources of information held by government agencies, and resources of information held by private organizations such as The Agriculture Group.</p> <p>→ Training in use of software for lifecycle analysis is given.</p> <p>Training for presentations and the use of software such as PowerPoint is also given. The practical skills are delivered in a 60 credit module research project.</p> <p>Assessment</p> <p>Practical skills are assessed in each of the modules.</p> <p>Essays and reports are assessed, in part, on the skill with which the referenced material has been obtained, evaluated, and discussed.</p> <p>Skills in data handling and lifecycle analysis are assessed in course tests and where they form part of a report or dissertation.</p> <p>Skills in meta-analysis are assessed in the evaluation of the research modules.</p> <p>Presentation skills are assessed in all modules.</p>
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<p>C2(iv) Key Skills and Attributes</p> <ul style="list-style-type: none"> a . Managing a project b. Presentation skills c. Teamwork. d Formation of hypothesis e. Accessing information from computer databases f. Analysis of published information and reconciling conflicts g. Understanding experimental design h. Communication of science through a variety of media 	<p>Teaching/Learning methods and strategies</p> <p>Key skills training is given in the 10 credit compulsory transferable skills module. This consists of a series of workshops and seminars intended to enhance key skills in, for example, time management, team working, and entrepreneurial skills. Interpersonal and teamwork skills are developed and improved in seminars which rely on discussion and interaction with peers and the seminar leader. The core 60 credit research project focuses on developing skills in analysis of published data from a wide variety of sources and drawing up a summary and conclusion that relate to the objectives of the project.</p> <p>Assessment</p> <p>The acquisition of key skills is monitored through written essays, seminar presentations, and group discussions. The timely submission of word processed documents of satisfactory standard will indicate effective information technology skills, time management, and independent working. Team work skills are assessed by performance in group activities and discussions. Oral presentations form part of the seminar unit. Project work depends on independent study. Training for employment is assessed in the transferable skills course.</p>
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SECTION D1: COURSE PROFILE AND AWARD REQUIREMENTS

Please insert (i.e. cut and paste) the course profile here or complete the following boxes, as appropriate. If you insert the course profile, please ensure that the NOTICE below about changes to units is retained.

Each box relates to a year of study. If the programme is part-time or offers a part-time option, please extend the number of years as appropriate (maximum = 9).

NOTICE: Whilst the University will make every effort to offer the units listed, changes may sometimes have to be made for reasons outside the University's control (e.g. illness of a member of staff) or because of low enrolment numbers or sabbatical leave. Where this is the case, the University will endeavour to inform students.

Year 1	<p>Core, Compulsory and Optional Units</p> <p>Compulsory modules (160 credits)</p> <p>BIO-M629 Molecular Genetics and Biotechnology in Plant Breeding (20 credit)</p> <p>BIO-M823 Post Graduate Training Programme (10 credit)</p> <p>*BIO-Mxxx Sustainable Agriculture (20 credit)</p> <p>*BIO-Mxxx Food Domestication (20 credit)</p> <p>BIO-M13X Research Project (60 credit)</p> <p>BIO-M127 Research Skills (30 credits)</p> <p>Options Range A Students will select 20 credits from the following modules:</p> <p>BIO-M621 Plant Breeding (20 credit)</p> <p>BIO-M634 Plant-Microbe Interactions and Control of Plant Diseases (20 credit)</p> <p>* These are new modules required by this course</p>	<p>List pre- and/or co-requisites and any professional body requirements</p> <p>A Science related degree</p> <p>Progression Requirements or Award</p> <ul style="list-style-type: none">i) An MSc degree is obtained with at least the pass mark (50.00%) in all modules (180 credits)ii) Aggregate mark of 50.00% - 69.99% is a "pass"iii) Aggregate mark > 70.0% is a "distinction"iv) 120 credits is required for Postgraduate Diplomav) 60 credits is required for Postgraduate Certificate
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SECTION D2: REGULATORY FRAMEWORK FOR AWARDS

D2a Regulatory Framework: <i>(please tick against the relevant framework)</i>					
Common Course Structure for Undergraduate Programmes (CCS)	<input type="checkbox"/>				
NAM Common Course Structure (NAM-CCS)	<input type="checkbox"/>				
Common Regulatory Framework for Postgraduate Programmes (CPG)	<input checked="" type="checkbox"/>				
It is expected that all new degree courses will conform to the common University regulations (either to CCS, NAM-CCS or CPG, and the associated Instructions to Examiners).					
D2b Degree Classifications For First degree programmes					
i) Weighting (in percentage terms) which each year of the course contributes to the calculation of the degree classification.					
	(Part-time Programmes)				
Year 1	<input type="text" value="100%"/>				
Year 2	<input type="text" value="Not applicable"/>				
Year 3	<input type="text" value="Not applicable"/>				
Year 4	<input type="text" value="Not applicable"/>				
Year 5	<input type="text" value="not applicable"/>				
Year 6	<input type="text" value="not applicable"/>				
Year 7	<input type="text" value="not applicable"/>				
Year 8	<input type="text" value="not applicable"/>				
Year 9	<input type="text" value="Not applicable"/>				
ii) Please indicate whether an aggregate mark and/or the University marks profile is taken into consideration for the purpose of determining degree class.					
D2c Postgraduate Awards					
i) Are (any) units assessed on a pass/fail (instead of numerical) basis?	<table border="1" style="border-collapse: collapse;"> <tr><td>YES</td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>NO</td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> </table>	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
YES	<input type="checkbox"/>				
NO	<input checked="" type="checkbox"/>				
If so how many credits are assessed on a pass/fail basis	<table border="1" style="border-collapse: collapse;"> <tr><td style="text-align: center;">.....</td></tr> </table>			
.....					
ii) Can the award be conferred with distinction?	<table border="1" style="border-collapse: collapse;"> <tr><td>YES</td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td>NO</td><td style="text-align: center;"><input type="checkbox"/></td></tr> </table>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
YES	<input checked="" type="checkbox"/>				
NO	<input type="checkbox"/>				
iii) On what criteria is the distinction awarded? (See also the Regulations for the Common Postgraduate Regulatory Framework.)					

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 study unit guide and course handbook. The accuracy of the information contained in this document is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Note: Sections E, F, G and H are for internal approval purposes and should NOT be placed on the intranet

SECTION E: EQUAL OPPORTUNITIES (including students with disabilities and students from ethnic minority groups)

Please indicate

a) How the admissions policy will aim to preserve and promote equality of opportunity for all applicants.

Applicants will be selected on the basis of the appropriateness of the qualifications and experience they have, and indications of what benefit they may take from the course

b) How the course will aim to preserve and promote equality of opportunity for all students.

The course is designed to give each student equal opportunity to achieve the learning outcomes and to acquire appropriate experience

c) How teaching and learning and assessment methods will aim to preserve and promote equality of opportunity.

The information relating to teaching and assessment methods is published in the MSc student handbook and on the school webpages. These sources of information are readily accessible to all students.

Blackboard is used to communicate with all students equally. Non-native speakers have access to English language support through the Dean of Student's office

[For any resource implications, please see Section G4c).]

**SECTION F: STRATEGY, MARKET DEMAND, ADMISSIONS AND COURSE
MANAGEMENT DETAILS (for all new course proposals)**

<p>F1 Academic Strategy</p>
<p>a) How does the course fit in with:</p> <ul style="list-style-type: none"> • your School's academic plan? <p>The MSc is part of the school's plan to harness the expertise across the Norwich Research Park and develop links with local industry and research Institutes. There are also inter-school opportunities for ENV, DEV and HIS to contribute to the taught modules. The MSc in Sustainable Agriculture will be the first agricultural course in the East of England, which is also the centre of arable production in the UK.</p> <ul style="list-style-type: none"> • the Faculty's academic plan? <p>The course will be a flagship course for the Norwich Science Vision initiative across the Norwich Research Park. It will be teaching cutting edge research findings which will have a strong impact on how countries cope with global warming. Thus it will fit with the Science Faculty's goal to be at the forefront of innovative learning opportunities at this university</p> <ul style="list-style-type: none"> • The proposed course addresses the following goals of UEA's corporate plan : O4 To continue to increase the quality, number and range of student applicants ED4. Establish a range of new programmes, whilst rationalising and refreshing the existing portfolio, paying particular attention to demographic changes, changes in 14-19 education, student employability and the possible liberalisation of the fee regime. ED6. Set stretching recruitment targets for the number and quality of home/EU and international applicants, and meet them through an enhancement of our offer and profile, improved marketing, direct recruitment and cooperation with INTO.
<p>b) Does the course contain any overlap of material with existing courses at UEA? If so, please give details, naming the School of Studies concerned, identifying the course code and title, and summarising the outcome of prior consultations with that School(s) and the appropriate Faculty on the overlap issue.</p> <p>The course profile (year 1 box) shows which modules are already being taught – all of them in BIO.</p> <p>BIO-M629 Molecular Genetics and Biotechnology in Plant Breeding (20 credit)</p> <p>BIO-M634 Plant-Microbe Interactions and Control of Plant Diseases (20 credit)</p> <p>BIO-M823 Post Graduate Training Programme (10 credit)</p> <p>BIO-M637 Practical Class (10 credit)</p> <p>BIO-M621 Plant Breeding (20 credit)</p> <p>Module Organisers of these modules have all been consulted.</p>

<p>c) Are there any related dormant course(s) that the School proposes permanently to discontinue? (Please give award, title of course, UEA course code and effective date of discontinuation and indicate Faculty support.)</p> <p>No</p>
<p>d) Are there any related course(s) that the School wishes to make dormant? (Please give award, title of course, UEA course code and effective date of dormancy and indicate Faculty support.)</p> <p>No</p>
<p>e) Are there existing students on any courses affected by actions in d) above? If so, please state how the School will manage the 'exit' strategy?</p> <p>No</p>

F2 Market Demand

- a)** Are identical or similar courses offered elsewhere in the UK? If so, please give details of the number, title(s), institution(s) etc and indicate why you think your course has a comparative advantage over its competitors:

There are very few postgraduate taught postgraduate courses on agriculture offered by UK universities and we are aware of only one other that addresses sustainable agriculture and food production and that is delivered at the University of Reading. The value of the MSc described here is that it draws upon contacts with the farming community in the East of England.

Of particular relevance for students is the access they will have to world class research institutes and centre of excellence across the NRP, including the John Innes Centre.

There exists at UEA a unique range of expertise across the School of Environmental Sciences (including the Climatic Research Unit which is at the forefront of climate change research) and the School of Development Studies which has recently won a Queen's Anniversary Prize (the UK's most prestigious higher education award) in recognition of over 40 years' sustained and highly respected responses to environmental change and poverty in some of the world's poorest countries.

These resources will contribute to making the MSc in Sustainable Agriculture a premier course for people who want a sound educational grounding for a future career in this field.

- b) i) What is the evidence of current and future demand for the course from employers (industry, commerce, government agencies, the professions etc.), broadly defined national needs, students, developments in the subject area?

Professor John Beddington, the Government Chief Scientist, identified food sustainability and food security as the greatest challenge the world currently faces, in his speech of March 2009, *The Perfect Storm*. He drew attention to the prediction that world food production will have to double before 2030 to keep pace with population growth, but without additional fertilizer, energy or water. The ELSA TSB (Earth and Life Systems Alliance, - Technology Strategy Board - Sustainable Agriculture Innovation Platform) announced this in January 2010 a £90m initiative to support sustainable agriculture. The Royal Society announced in December 2009 its paper "Reaping the Benefits" which calls for government support for sustainable agriculture. The food industry is one of the three biggest contributors to pollution. There are presently insufficient trained people to address these challenges that face the UK and the world.

Food sustainability and food security are currently (2010) the top two priorities of the BBSRC. There are now three of the five BBSRC research institutes on the NRP.

(The BBSRC is a research council which supports research and training in the general area of biotechnology and food production, and that is the reason why it is referred to above, but not as a major employer below)

- ii) What are the career opportunities for students successfully completing the course?

This course is not only aimed at students planning a career in agriculture; it is also of great relevance to those planning a career in advisory roles in decision making organisations.

The novelty of this MSc and skills training it provides will give students a strong advantage in applying for posts in:

- agriculture, in all countries where food production is a priority and necessity
- advisory agencies, government departments, policy making organisations, aid agencies, non-government organisations working in developing countries
- international organisations such as the United Nations, World Bank, European Union where Ministers need well informed advisers on the key issues of sustainable agriculture and food security
- the developing countries where lifecycle analysis and understanding of the principles of energy-saving are of critical importance

Issues about sustainable agriculture and food security have been recognised relatively recently as part of the climate change agenda. It is expected that the demand for courses in this field will increase in future years. UEA will be at the forefront in this provision.

- c) *(For UG proposals only):* What is the annual number of applicants currently applying nationally for similar courses (details available from Access and Admissions Office, ext. 3728)?

d) Is there evidence that current and projected demand for such a course cannot be met from existing provision (a) nationally and (b) regionally? If so, please give details:

See B. and C. above

e) What external bodies (e.g. professional associations and relevant employers or employers' groups) have been consulted about the course and what views have they expressed?

The following groups have been consulted, and verbal support has been received

NFU, (National Farmers Union)

BBSRC (Biotechnology and Biological Sciences Research Council

TAG, (The Arable Group)

NIAB (National Institute of Agricultural Botany)

JIC (John Innes Centre)

SL (Sainsbury Laboratory)

Rothamsted Research

f) How will the School/Faculty ensure that the views and/or requirements of professional bodies and of employers are taken into account during the lifetime of the course?

We have spoken widely with professional bodies in the development of this course, as listed above. Several of these organisations will be involved in the delivery of the course and they will continue to be consulted at times of course review.

g) Does the course require/imply any external accreditation? If so, by whom and when might this occur?

No

F3 Admissions

a) Admissions Criteria (please specify)
Science related degree pass at level 2.ii or better, and if appropriate, IELTS score 6.5 or better

b) Proposed student intake target

FT Home/EU...5 FT INTL...10
PT(heads).....0..... DL(heads).....0.....

c) Minimum viable intake (FTEs).....10.....

d) Maximum viable intake (FTEs).....20.....

e) (For UG proposals only): Are any particular Access programmes relevant to this course (and if so which)?

f) Student Targets		
i) Are the intake targets given in Section E3 additional to the currently approved student targets of the sponsoring School(s) of Studies or will the course involve a redistribution of current targets between courses? Please give details:		
Additional, but have been included in the School's financial plan The proposed intake is consistent with the BIO 5 year plan and included within the BIO targets; it does not require additional HEFCE allocation. The programme is mainly aimed at the overseas market. It does not require redistribution of the targets already set – which have been agreed with the SCI Finance Office and Admissions Office with the expectation that these courses will be introduced..		
ii) If the intake targets are additional, have the additional numbers been authorised by the Planning Office (Deputy Academic Registrar)?		YES
		NO
		X

F4 Course Management Details			
1.	Faculty	SCI	
2.	i) Teaching Institution (UEA or elsewhere)	UEA	
	ii) Placement(s)/Work-based Practice required	YES	
		NO	X
	iii) Please indicate type (e.g. year in industry)		
3.	i) Exit Awards below final award	YES	X
		NO	
	ii) If YES, please specify (e.g. Diploma of Higher Education, Certificate of Higher Education)	PG Cert PG Diploma	
4.	Length of Programme	One year	
5.	Mode(s) of Attendance (Please tick as appropriate)	Full-time	X
		Part-time	
		Distance Learning	
6.	Course Director(s) Prof John Turner BIO Deputy to be announced	Course Code	
		Course Code	
		Course Code	
7.	Relevant Subject Benchmarking Statements	No specific benchmarks	
8.	Start date (for new course proposals)	Course Code	Date
		Course Code	Date
9.	i) Accreditation/Professional Body (where applicable)	na	
	ii) Date of original accreditation/recognition by Profession Body (if relevant)		
	iii) Most Recent Accreditation Date (if relevant)		
10. Board of Examiners			
	i) Is a new Board of Examiners to be responsible for the	YES	X

	programme(s)/course (<i>please tick</i>)	NO	
ii)	If NO, please specify which Board of Examiners will be responsible for the programme(s)/course		
iii)	Is (are) any additional external examiner(s) required?	YES	X
		NO	
			If YES, how many? 1
11. (For existing programmes)			
i)	Date of most recent University periodic review	Not applicable	
ii)	Date of next University periodic review	not applicable	

SECTION G: RESOURCES

Preamble

The introduction of new courses/programmes involves the commitment of additional resources and/or the redistribution of existing resources. The full resource implications of a new course are sometimes not immediately obvious: some costs (e.g. the additional demands on teaching accommodation) are "hidden" and are not always recognised by course proposers. This section of the approval form is therefore designed to address the full range of resource issues associated with a new course.

G1 Tuition Fees

Please specify whether the income to be generated by the course is to be from:

- a) tuition fees at the standard home/EU rate plus any HEFCE recurrent grant for teaching that the student numbers may generate Home/EU fees to be £4,800 for 2011 intake + HEFCE income
- b) some other source (e.g. full cost fees, teaching contract) Yes international students

c) Has the Fees Officer in the Planning Office of the Academic Division (ext 2205) been consulted?

YES

X

NO

G2 Units of Teaching

- a) Does the course require the provision of additional units of teaching not currently available (if so, please complete the section below)?

For new programmes involving new units:

Please complete as far as possible the section below for each new module

1	Module Code	BIO-Mxxx
	Module Title	Sustainable Agriculture
	Credit	20
	Semester (Autumn/Spring)	Autumn
	Pre-requisite(s)	Admissions entry requirements
	Co-requisites(s)	
	Convenor	John Turner
	Date of Approval	7.1.10

	Brief description (<i>aims, objectives, content, teaching and learning method(s), learning outcomes</i>)	This module considers the range of factors that have moulded our current practices in agriculture. It addresses the process of domestication of our current crops and livestock, and the fundamental changes, and where known, the underlying genetic basis of changes introduced by domestication. Consideration is given to plants and animals that have not been domesticated, but which might have been. The course addresses in addition the engineering developments and the sociological changes that have driven, and been developed by, agriculture. It examines the main types of current agricultural practice in Western Europe, and in technologically undeveloped regions.
	Method(s) of assessment	Coursework and Examinaton
2	Unit Code	BIO-Mxxx
	Unit Title	Food Domestication
	Credit	20
	Semester (Autumn/Spring)	Autumn
	Pre-requisite(s)	Admissions entry requirements
	Co-requisites(s)	
	Convenor	John Turner
	Date of Approval	
	Brief description (<i>aims, objectives, content, teaching and learning method(s), learning outcomes</i>)	This module examines the principles of sustainable agriculture and the prospect of achieving this in the UK, in particular. As context, the module examines the development of agriculture from Neolithic times through to the different types practiced today, and the factors that have shaped this. A focus is the prospect of reconciling the competing demands of increasing food production for a larger population, whilst reducing fossil fuel inputs and greenhouse gas emissions, and protecting the rural environment.
	Method(s) of assessment	Coursework and Examination
b) Please specify which/whether any existing units are to be withdrawn from the Course Management System. none		

G3 Staffing

- a)** Are new teaching appointments required and if so how many, at what level and how does the School(s)/Faculty intend to fund these?

Two new staff appointed to the School of Biological Sciences but based in JIC will contribute to this course

- b)** If no new teaching appointments are required, what teaching adjustments for existing

faculty are proposed if

- i) new units of teaching are required?
- ii) certain existing units of teaching are to be withdrawn?

Increased teaching load on existing staff members + staff from across NRP
Plus potentially in ENV, DEV and HIS if they wish to contribute.

- c) What are the resource implications for Schools of Studies outside the sponsoring School(s) (e.g. service teaching, overseas exchange links)? Please give below the outcome of consultations that have taken place on this matter (including with the relevant Faculty/Faculties) and attach relevant documentation.

None

G4 Other resources

- a) Is any other additional recurrent or non-recurrent expenditure envisaged in the sponsoring School(s)? If so, please give details, indicating how the School(s)/Faculty intends to fund these:

- i) equipment, including computers

a laptop computer for each student at £500 per student

- ii) consumables

Field trips: £1,250 per student

demonstrating budget 60 hours @ £16.56 per hour = £993.36

- iii) non-teaching staff

There will be some additional load on IT staff for the maintenance of a dozen or so computers

- b) What are the resource implications for the following central services of the course:

- i) academic administration

A marginal increase in support from SCI Teaching Office for PGT teaching and SCI Admissions Office for PGT admissions

- ii) the Audio Visual Service

None

- iii) Centre for English Language and British Studies

Support for non-native English speakers through Dean of Students Office

- iv) Dean of Students' Office

none

<p>v) IT and Computing Services IT support will be required for setting up laptops</p>
<p>vi) Library and Learning Resources</p> <p>a) Resources:</p> <ul style="list-style-type: none"> • What resources (books, journals, other media) are already available in the Library to support this programme? <p>Media sources are available free online</p> <ul style="list-style-type: none"> • What resources (books, journals, other media) other than those already available will be required (a) immediately (b) as the programme numbers increase? <i>The answer should include comments on the need for additional copies as well as for new stock and on the degree of reliance on interlending which may be necessary to support the programme.</i> <p>Additional copies of several textbooks are required</p>
<p>b) Services</p> <ul style="list-style-type: none"> • What Library services are likely to be used by student taking this programme (a) during the daytime (b) in the evening and at weekends? <i>Please comment on the likely use of Restricted Loan, and the Audio-Visual Services and on the need for evening/weekend access to borrowing facilities, particularly by part-time or distance learning students. Will there be regular teaching in the evening? Will any teaching take place away from the campus? Will professional placement form part of the programme?</i> <p>Access to a dedicated room for IT services, 24 hours a day, seven days per week</p>
<p>c) Usage</p> <ul style="list-style-type: none"> • Are there other, similar programmes which the Library could use as indicators of likely demand for stock and services if the programme is approved and introduced? <p>Not applicable</p> <ul style="list-style-type: none"> • What level of bibliographic instruction is likely to be required in order that the students taking the programme are able to use the Library fully and effectively? Will this be given by faculty or by Library staff? <p>Library support on bibliographic instruction would be helpful if skilled staff were available</p>
<p>vii) teaching accommodation</p> <p>Rooms via central booking</p>

<p>Increased load on centrally bookable accommodation should be met by a) the new UEA teaching building b) BIO teaching labs and c) use of BIO's own seminar rooms.</p>
<p>viii) University Counselling Service</p> <p>Yes when appropriate and as required.</p>
<p>ix) University Careers Service</p> <p>Yes this will be available to all students. Students will be encouraged to use the Careers Service to boost the employability statistics so important for the UEA league tables.</p>
<p>c) Equal Opportunities</p> <p>i) Is any special provision (e.g. equipment) or alteration (e.g. to facilitate access, to ensure health and safety is maintained) required to preserve and enhance equality of opportunity. None other than what the University is required to provide in order to preserve and enhance equality of opportunity</p> <p>ii) Has the Dean of Students' Office been consulted and if so, what is their advice?</p> <p>See above</p>
<p>It is important that the Schools discuss with the Information Services Directorate any resource implications and that any additional needs can be met from within their routine resource allocation unless otherwise indicated in the comment above.</p>

SECTION H: APPROVAL SHEET

TITLE OF PROGRAMME: ... MSc in Sustainable Agriculture and Food Security

1. CENTRAL SERVICES	
a)	Director of Careers Centre: Date: (Section F2 refers)
b)	Access and Admissions Office: Date: (Section F3 refers)
c)	Deputy Academic Registrar (Planning Office): Date: (Section F3 refers if the proposal is for additional intake numbers)
d)	Director of Library, Learning and IT Services: Date: (Section G4b refers if the proposal has resource implications)
2.	SCHOOL Date of School Board (or equivalent) approval: Signature of Chair:
<i>After signatures have been obtained, please forward this form to Sue Koria, Room 3.30, Learning, Teaching and Quality Office, Academic Division, Floor 3, The Registry</i>	

3. LEARNING, TEACHING AND QUALITY COMMITTEE APPROVAL	
3.1	<i>(for new course proposals with resource implications)</i>
	Date of LTQC Approval in principle:
	Signature of Chair:
3.2	<i>(for new course proposals without resource implications/major modifications to existing courses)</i>
i)	Signature of Director of Undergraduate Studies or Director of Graduate Studies (as appropriate):
	Date:
ii)	
	Signature of Academic Registrar:
	Date:
iii)	
	Signature of Director of Admissions (or nominee):
	Date:

4. FACULTY APPROVAL	
<i>(for new course proposals remitted to the Faculty for detailed consideration)</i>	
	Date of Faculty approval:
	Signature of Associate Dean: