PROGRAMME SPECIFICATION	

1	**Awarding Institution**	Newcastle University
2	**Teaching Institutions**	Newcastle University National Agricultural Research Foundation in Greece (NAGREF)
3	**Final Award**	MSc
4	**Programme Title**	Ecological Farming and Food Production Systems
5	**UCAS/Programme Code**	5516F/P
6	**Programme Accreditation**	N/A
7	**QAA Subject Benchmark(s)**	none
8	**FHEQ Level**	7
9	**Date written/revised**	25-01-2010

10 Programme Aims

1. to provide learning opportunities to enable graduates to acquire the knowledge and understanding, skills and aptitudes necessary to undertake applied and strategic research underpinning the development of ecological farming and food production
2. to produce graduates capable of understanding, improving and managing ecological farming and food production units/businesses in different macroclimatic, agronomic and market contexts
3. to encourage abstract, creative and multi-factorial thinking and critical analysis
4. to equip graduates with a suite of key skills including the ability to communicate effectively, to employ IT and library resources appropriately, to prioritise work and meet deadlines, to use initiative and solve problems
5. to meet the expectation of the Framework for Higher Education Qualifications as at Level 7

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

Knowledge and Understanding

On completing the programme students should:

A1 understand the agronomic (soil, crop and livestock management) approaches used in ecological/biological/organic food production systems

A2 have an in depth knowledge of the underlying principles and standards of ecological/ biological/organic food production, processing and retailing/marketing systems

A3 understand the main applied and strategic R&D methodologies used to improve ecological food production systems.

A4 understand approaches, mechanisms and challenges for technology transfer into the ecological/biological/organic food production, processing and retailing/marketing sector.

Teaching and Learning Methods

A1–A4 are achieved by lectures, seminars and laboratory classes. Under A1 field courses based at experimental and commercial farms are integrated into the curriculum to provide state-of-the-art agronomic knowledge and practical R&D skills (see also **B1-B5** below). In the cases of A1 and A3 lectures and seminars are also accompanied by practical sessions in data handling and quantitative statistical analyses. The teaching strategy for A2 and A4 includes lectures to set out baseline knowledge, principles and standards, and small group discussions, group exercises and seminars where current knowledge and R&D outputs are presented and examined from a range of perspectives.

Students will acquire knowledge through team work, case studies, presentations, and independent study and research. Some modules include short problem solving exercises.

Assessment Strategy

Intended learning outcomes (see A1 to A4 above) regarding knowledge and understanding are assessed based on course work involving both written and oral communications at the individual or team level. This will include a variety of continuous forms of assessment including essays, problem-solving exercises, laboratory reports and case studies and provide both formative and summative assessment through relevant examples. The interactive learning environment, Blackboard, will be used for both formative and summative assessments.

A2 and A3 For certain optional modules focused on A2 and A3 closed book examinations are a complementary means of assessing factual knowledge.

Intellectual Skills

On completing the programme students should be able to:

B1 synthesise key findings and knowledge from across natural and social sciences, in particular those relating to ecological food production, processing and marketing

B2 critically evaluate the quality of data and information offered from different sources

B3 define and formulate applied and strategic R&D problems, questions and hypotheses

B4 plan and conduct applied and strategic R&D projects either individually or as a team and critically evaluate results

B5 develop technology transfer strategies aimed at improving components of ecological food production systems based on R&D results

Teaching and Learning Methods

Intellectual skills (**B1-B5**) are developed progressively throughout the programme in modules containing seminars and case studies.

Throughout the programme, students will develop intellectual skills by participating in group discussions, case studies and at scientific conferences to enhance their **(a)** analytical and interpretative faculties and **(b)** ability to formulate objective and coherent arguments.

Field visits and associated team problem solving exercises are the main method used to enhance intellectual skills related to technology transfer capabilities.

Design, execution, statistical analysis and reporting of the final dissertation project enhance the learning of these skills in a focused manner.

Assessment Strategy

B1-B5 are assessed through individual and/or group R&D and technology transfer proposal preparation exercises and through individual dissertation proposals and theses

B1-B3 are also assessed via oral presentations and assessed essays, mainly in compulsory modules

B1and B2 are also assessed in certain optional modules by closed book examinations

The interactive learning environment, Blackboard, will be used for both formative and summative assessments.

Practical Skills

On completing the programme students should be able to:

C1 demonstrate bibliographic and key IT skills appropriate to R&D at Master's level

C2 use a wide range of analytical laboratory methods (e.g. in the areas of soil, crop, livestock, environmental and food sciences)

C3 collect data using a variety of methods and sources, including farmer and industry participatory approaches

C4 manage and critically analyse data using appropriate spreadsheet and statistical software

C5 prepare and present information, in both written and verbal formats, to stakeholders (e.g. farmers, processors, advisors and consumers) with contrasting levels of knowledge and understanding

Teaching and Learning Methods

Practical Skills (**C1-C5**) are primarily obtained through course work, practical laboratory classes, assignments and the research project.

Bibliographic and IT skills (**C1**) will be transferred through specific components (data handling, statistical and computing skills practical classes) which are included in all seven compulsory modules.

Assessment Strategy

The assessment of practical skills (**C1-C5**) will be based on **(a)** bibliographies produced as part of essays, seminar presentations and the final project thesis, **(b)** data handling and analyses carried out as part of problem solving exercises and the project thesis and **(c)** presentations to farmer and other stakeholder groups as part of industry workshops and the annual postgraduate conferences.

Transferable/Key Skills

On completing the programme students should be able to:

D1 communicate and present research findings (including those from their dissertation) to academic and stakeholder/industry audiences
D2 produce effective written communications and presentations using state-of-the-art software packages
D3 manage R&D and technology transfer, including writing proposals, planning of projects and implementation
D4 use effective time and resource management practices
D5 work effectively as a member of teams both subject specific and multidisciplinary

Teaching and Learning Methods

Transferable/Key skills **D1-D5** are developed through the programme of course work, field visits, final dissertation and the industry and postgraduate workshops.

Assessment Strategy

Key skills are not independently assessed. However, **D1-D5** are indirectly assessed through coursework, team and individual presentations, research papers and the dissertation.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The programme curriculum will be delivered by the **Newcastle University** and all but 3 modules will be taught in the teaching and laboratory facilities at the main Newcastle University campus in the city centre and at the University's Nafferton experimental farm.

However, students will be able to study for 2 months (January and February) at the beginning of semester 2 in Crete, Greece where 3 modules on Mediterranean crop production systems will be offered. This will enabling students to gain expertise in both Northern and Southern European Ecological Farming systems within a one year MSc course

Major support for the delivery of 3 modules (ACE8072, ACE8070, ACE8071) focused on Mediterranean crop production systems (which will be delivered at the beginning of semester 2 (January and February) in Crete will be provided by staff from the National Agricultural Research Foundation of Greece (NAGREF).

The programme consists of

1. **Compulsory modules** are:
   - a **10 credit taught modules** which covers **soil management practices** used in **ecological farming and food production** systems
   - a **10 credit taught modules** which covers **crop management practices** used in **ecological farming and food production** systems
     - the soil and crop management modules are closely integrated with the

(a) livestock management module taught at Newcastle University or perennial crop management module taught in Crete at the beginning of semester 2 (January and February)

- a **10 credit** module which covers **standards, certification and quality assurance** systems used in ecological farming and food production
- a **10 credit food marketing module** (which also includes specific units on consumer expectations and marketing of organic foods)
- a **10 credit field course module** to provide access to state-of-the-art examples of **(a)** soil, crop and livestock management practices, **(b)** marketing approaches, and **(c)** implementation of ecological and other farming standards in commercial practice
- a **90 credit dissertation** module
- one of the following 2 modules:
  - a **livestock management ecological farming and food production** systems module (taught at the beginning of semester 2 in Newcastle)
  - a **perennial crop management practices** in **ecological farming and food production** systems module (taught at the beginning of semester 2 in Crete, Greece)

All modules (except for the food marketing module available at Newcastle University only) were specifically developed for the MSc course in Ecological Farming and Food production Systems. These modules comprise a total of 150 credits.

2. **Three optional 10 credit modules** (from the existing programme of MSc modules available at Newcastle and in Crete).

Optional modules taught at **Newcastle** (in either semester 1 or 2) are available in the following areas:

- Ecology and environmental science
- Soil Science and water management,
- Crop and livestock nutrition
- Crop and livestock health management
- Environmental, rural resource, and farm economics
- Consumer studies and food marketing
- Wildlife conservation

All modules have been developed as part of existing MSc courses available at Newcastle University

Optional modules taught in **Crete, Greece** (at the beginning of the 2nd semester in January and February) are:

- economics and policy development in the ecological farming and food sector
- Ecological olive production

All Mediterranean production system focused modules taught in Crete have been developed specifically for the MSc in Ecological Farming and Food Production systems

Key features of the programme (including what makes the programme distinctive)

The programme allows an in depth specialisation in **Ecological Farming and Food Production Systems**. Ecological/Biological/Organic Farming is an area of the food and farming industry that has seen rapid growth in the last 20 years, but it is currently only marginally covered by existing BSc Degree programmes in the UK. Also there are currently no specialised MSc programmes on Ecological farming in England, while such programmes are available in Scotland and some European countries (Germany, Italy).

In line with the integrated/holistic approach defined by ecological farming standards/principles the MSc course will provide an integrated delivery of soil, crop and livestock, and food supply chain management approaches used in ecological farming systems.

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/

13 Criteria for admission

Entry qualifications
Good Honours Degree (2ii or higher) in an appropriate subject (agriculture, soil, crop, animal, food or environmental science; biology, geography, or rural, consumer, economic, business and/or marketing studies)

Other non-standard qualifications and relevant experience are also considered. This applies in particular to relevant work experience in the ecological farming and associated industries. Each application is considered individually by the course selector, and if appropriate will be made an offer.

Admissions policy/selection tools
As this programme requires a wide range of abilities and attributes, selection is not solely based on academic qualifications. Selectors seek evidence of motivation and commitment, supported by the personal statement and references.

Level of English Language capability
6.5 IELTS or equivalent. Students whose English ability does not meet this level may be recommended to attend appropriate pre-sessional English courses (e.g. INTO Newcastle University programme).

14 Support for Student Learning

Induction
During the first week of the first semester students attend an induction programme providing a general introduction to University life and their principle support services and general information about the MSc course, as described in the Degree Programme Handbook. They will be given detailed programme information and the timetable of lectures/practicals/ labs/tutorials/etc. The International Offices at both institutions offer an additional induction programme for overseas students.

Study skills support
Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management, is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support and help with academic writing are available at the respective institutions.

Academic support
The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Board of Studies.

Pastoral support
All students are assigned a personal tutor whose responsibility is to monitor the academic performance and overall well-being of their tutees. In addition the institutions offer a range of support services, including one-to-one counselling and guidance or group sessions/ workshops on a range of topics, such as emotional issues eg. Stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues, and support for all students on a range of topics including housing, debt, legal issues etc.

Support for students with disabilities
Newcastle University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies.

Learning resources
The University main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities. On-line access to an extensive range of electronic data bases, journals and books will be provided by Newcastle University for all students on the course.

15 Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews
All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Programme reviews
The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Teaching and Learning Committee.

External Examiner reports
External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with institutional student representatives, through the Staff-Student Committee.

Student evaluations
All modules, and the degree programme, are subject to review by student questionnaires. Informal student evaluation is also obtained at the Staff-Student Committee, and the Board of Studies.

Mechanisms for gaining student feedback
Feedback is channelled via the Staff-Student Committee and the Board of Studies.

Faculty and University Review Mechanisms
The programme is subject to the University's Internal Subject Review process. Every five years degree programmes in each subject area are subject to periodic review. This involves both the detailed consideration of a range of documentation, and a two-day review visit by a review team which includes an external subject specialist in addition to University and Faculty representatives. Following the review a report is produced, which forms the basis for a decision by University Teaching and Learning Committee on whether the programmes reviewed should be re-approved for a further five year period.

Accreditation reports
- not applicable;
- endorsement by Ecological farming bodies and organisations providing low-input/integrated farming certification standards/services may be obtained
- however, the course management team feels that accreditation by such bodies would impede the independence of curriculum development

Additional mechanisms
An ecological food producers advisory panel will be established to advise the course management team on industry needs regarding the knowledge and skills transferred on the MSc programme

16 Regulation of assessment

Pass mark
The pass mark is 50 (Postgraduate programmes)

Course requirements
Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research and Examination Conventions for Taught Masters Degrees. Limited compensation up to 40 credits of the taught element and down to a mark of 40 is possible and there are reassessment opportunities, with certain restrictions.

Common Marking Scheme
The University employs a common marking scheme, which is specified in the Taught Postgraduate Examination Conventions, namely:

Summary description applicable to postgraduate Masters programmes		**Summary description applicable to postgraduate Certificate and Diploma programmes**	
<50	Fail	<50	Fail
50-59	Pass	50 or above	Pass
60-69	Pass with Merit		
70 or above	Pass with Distinction		

Role of the External Examiner
An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, after recommendation from the Board of Studies. The External Examiner is expected to:

- See and approve examination papers
- Moderate examination and coursework marking
- Attend the Board of Examiners
- Report to the University on the standards of the programme

In addition, information relating to the programme is provided in:

The University Prospectus (see http://www.ncl.ac.uk/postgraduate/

The School Brochure (contact enquiries@ncl.ac.uk)

The University Regulations (see http://www.ncl.ac.uk/regulations/docs/2009.html

The Degree Programme Handbook (see http://www.ncl.ac.uk/afrd/postgrad/taught/)

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

ANNEX 1. Mapping of Intended Learning Outcomes onto Curriculum/Modules

			Intended Learning Outcomes			
Module		**Type**	**A**	**B**	**C**	**D**
Compulsory modules						
ACE8062	Soil Management in Ecological Farming Systems	Compulsory	1,2,3,4	1,2,3,5	1,2,3,4	1,2,3,4,5
ACE8063	Ecological Livestock Production Systems	Compulsory	1,2,3,4	1,2,3,5	1,2,4,5	1,2,3,4,5
ACE8064	Ecological Farming Standards and Quality Assurance	Compulsory	2,4	1,2,5	1,3,5	2,3,4,5
ACE8065	Ecological Farming and Food Production: Field Courses	Compulsory	1,4	3,4,5	3,5	1,2,3,5
ACE8066	Individual Research Project and Dissertation	Compulsory	3,4	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
ACE8067	Ecological Crop Production Systems	Compulsory	1,2,3,4	1,2,3,5	1,2,3,4,5	1,2,3,4,5
ACE8072	Ecological Perennial Crop Production Systems	Compulsory	1,2,3,4	1,2,3,5	1,2,3,4,5	1,2,3,4,5
ACE8073	Essentials of Food Marketing	Compulsory	2,4	1,2,3,5	1,3,4,5	1,2,3,4,5
Optional Modules						
ACE8021	Sustainable Development and Environmental Change	Optional	1,2,3	1,2,3	1,3,4	1,2,4,5
ACE8022	Quantitative Techniques, Experimental Design and Data Analysis	Optional	3	2,3,4	1,4	3,4
ACE8025	Tropical Animal Production	Optional	1,3	1,2,3	1,2,3,4	1,2,4,5
ACE8041	Ecosystem Management	Optional	3	1,2,3	1,3,4,5	1,2,4,5
ACE8042	Wildlife Conservation: Policy and Practice	Optional	3	1,2,3	1,3,4,5	1,2,4,5
ACE8060	Land-Water Interface	Optional	1	1,2,3	1,2,3,4	1,2,4,5
ACE8061	Global Ecosystems and Environmental Change	Optional	1,2,3	1,2,3	1,2,4	1,2,4,5
ACE8070	Ecological Olive Production	Optional	1,2,3,4	1,2,3,5	1,2,3,4,5	1,2,3,4,5
ACE8071	Economics and Policy Development in Ecological Farming and Food Production	Optional	2,4	1,2,3,5	1,3,4,5	1,2,3,4,5