PROGRAMME SPECIFICATION		Newcastle University

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	MSc
4	**Programme Title**	Agricultural & Environmental Science
5	**Programme Code**	5021F 5021P
6	**Programme Accreditation**	N/A
7	**QAA Subject Benchmark(s)**	N/A
8	**FHEQ Level**	7
9	**Last updated**	May 2024

10   Programme Aims

1. to provide learning opportunities to enable graduates to acquire the knowledge and understanding, skills and aptitudes necessary to pursue a successful career in agricultural and/or environmental research, sciences underpinning agricultural development, sciences underpinning management of the agri-environment.

2. to produce graduates capable of understanding and applying the principles of agricultural science and the interactions of agriculture with the environment, with particular emphasis on concepts of sustainability.

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 to meet the expectation of the Framework for Higher Education Qualifications as at Level 7.
5. to meet the expectation of the Framework for Higher Education Qualifications at Level

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 have:
A1 an advanced systematic and critical understanding of the principles, applications and limitations and of appropriate analytical and experimental techniques for analysing components of the agriculture and the environment;

A2 an understanding of appropriate quantitative techniques for data analysis, their rationale and their strengths and weaknesses;

A3 a critical awareness of contemporary issues of sustainable agriculture and environmental change in the context of agricultural development;

A4 a thorough understanding of technologies, approaches and strategies available to improve productivity, food quality, resource use efficiency and environmental impacts in agricultural production systems and food supply chains.
Teaching and Learning Methods
A1–A4 are achieved by lectures, seminars and laboratory classes. Under A1 field courses based at farms and other sites are integrated into the curriculum to provide state-of-the-art agronomic knowledge and practical R&D skills (see also B1-B4 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 teamwork, 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 problem-solving exercises, laboratory reports and case studies and provide both formative and summative assessment through relevant examples. The interactive learning environment, Canvas, will be used for both formative and summative assessments.
Intellectual Skills
On completing the programme students should be able to: **B1** identify and synthesise key findings and knowledge from across agricultural and environmental sciences, in particular those relating to sustainable food production systems;   **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.
Teaching and Learning Methods
Intellectual skills (B1-B4) 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-B3 are also assessed via oral presentations and assessed essays, mainly in compulsory modules;   The interactive learning environment, Canvas, will be used for both formative and summative assessments;

B1-B4 are assessed through individual and/or group R&D and technology transfer proposal preparation exercises and through individual dissertation proposals and theses.

Practical Skills

On completing the programme students should be able to:

C1 demonstrate bibliographic and key IT skills appropriate to R&D at Masters' level;

C2 use a wide range of analytical methods (e.g. in the areas of soil, crop, livestock and environmental 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 or other computer models;

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 modules and through 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 assessments, 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) seminar presentations to students and other stakeholder groups.

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, technical notes, planning of projects and implementation;

D4 use effective time and resource management practices;

D5 work effectively as a member of a team (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 postgraduate workshops/seminars.

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Assessment Strategy
Key skills are not independently assessed. All are indirectly assessed through coursework, team and individual presentations and the dissertation.

12	Programme Curriculum, Structure and Features

Basic structure of the programme

The programme curriculum will be delivered by **Newcastle University** and most modules will be taught exclusively in the teaching and laboratory facilities at the main Newcastle University campus in the city centre or Newcastle University Farms.

The programme runs for 12-months from late September, across 3 Semesters. It comprises 180 credits, including 120 credits taught (Semesters 1 and 2) with 60 credits allocated to the dissertation project (mostly undertaken during Semester 3). All modules are compulsory.

Modules are offered using a blocked teaching structure where usually only one 10 credit module is taught at a time during a two-week teaching block or one 20 credit module during a four-week teaching block.

All MSc candidates are required to design, undertake and evaluate an independent project which involves an original investigation leading to a project report (submitted in September; 60 credits). This will normally be a piece of applied agricultural or environmental science.

An initial project proposal is developed and assessed. Students are expected to work independently (with supervisor support) to refine project plans during phase 2. During this time, they are also required to review and evaluate the relevant literature.

Intensive work on data collection and analysis takes place in phase 3 after taught modules have been completed.

Students have to satisfy the standard MSc regulations that apply to MSc degrees in the School of Natural and Environmental Sciences. Decisions on fail, pass, diploma, MSc merit and MSc distinction awards will be made by the Board of Examiners in September after completion of the project work and will be based on overall performance in all aspects of the subject.

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

1. The MSc degree utilises a wide range of agricultural and environmental expertise available in the School of Natural and Environmental Sciences, which has a long track record of research and teaching.
2. The approach is strongly underpinned by science, combining agricultural and ecological approaches to environmental management with the objective of sustainable development that is physically and biologically viable and socio-economically acceptable.
3. Optional modules allow students to develop specialised interests and to enhance their employment opportunities in specific fields of agricultural and environmental management.
4. The programme offers particular opportunities to develop field experience and practical skills, both in taught modules and in the MSc project.
5. The substantial 3-month long MSc project provides a unique opportunity for students to gain first-hand practical and field experience, much in demand from employers both in the development and consultancy field, and to apply their newly learnt skills in field situations. In this context, students usually undertake their project with an existing university research group or a nationally based institution working in an appropriate field. Projects may also be undertaken in collaboration with an overseas research institution.

Programme regulations (link to on-line version)

5021FP: https://teaching.ncl.ac.uk/docs/regsdocs2024/documents/-R5021FP.pdf

13	Support for Student Learning

Generic information regarding University provision is available at the following link.
Generic Information

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

Generic information regarding University provision is available at the following link.
Generic Information

Accreditation reports

Additional mechanisms

15	Regulation of assessment

Generic information regarding University provision is available at the following link.

Generic Information

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

The University Prospectus: Find a Degree | Postgraduate | Newcastle University (ncl.ac.uk)

Degree Programme and University Regulations: University Regulations | University Regulations | Newcastle University (ncl.ac.uk)

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.