SCHOOL OF NATURAL AND ENVIRONMENTAL SCIENCES

BSc (Hons) Applied Plant Science (C211)

Degree Programme Information

ACADEMIC YEAR 2019-2020

Supplement to the School Undergraduate Handbook
Welcome to Applied Plant Science

Welcome to the BSc Applied Plant Science (APS) degree programme at Newcastle University. Your programme is a new degree programme (set up in 2017) at Newcastle keeping in mind the translational research and practical knowledge needed in the current career climate. This programme is first of its kind in the UK focussing on and combining both fundamental and applied subjects. Graduates of this Applied Agri-Biological degree will be well placed for a wide range of careers with opportunities both in industry and the public sector. We are pleased to have you as part of the APS “family” and want to ensure that your stay at Newcastle University is both rewarding and enjoyable.

As Degree Programme Director I am dedicated to your academic progress and achievement. You are making a large commitment both in terms of efforts and money and we want to provide you with clear guidelines on what you can expect in terms of the learning experience as well as the support available to you. This booklet provides essential information about the APS degree programme and should be read in conjunction with the School’s Undergraduate Handbook.

The successful delivery of your degree programme is a team effort involving a large number of teaching, research and administrative staff who are committed to ensuring that your time at Newcastle is productive. The degree envisages an effective learning process involving a two-way interaction, so we also want you to be fully engaged, enthusiastic and ambitious. This will help to stimulate students’ curiosity about the subject area and learn more effectively while providing constructive feedback.

However, please do speak with your personal tutor or with me if you have concerns about any aspect of your degree programme.

I wish you the very best in your degree studies.

Ankush Prashar

(Degree Programme Director)
BSc Applied Plant Science (APS) Degree

The APS degree is primarily aimed at developing students’ knowledge and practical skills covering both fundamental and applied subjects within a detailed programme linking biological concepts and agricultural aspects. The programme provides a sound background in biological disciplines in the context of their application to plant growth and development and crop production. In addition, the degree focuses on how plant species interact, both physiologically and ecologically, with each other, as well as with animal species and their environment. The aim is to provide a flexible programme covering all aspects of plant science (with an applied emphasis), incorporating the elements of Biosciences (e.g. cell and molecular biology, genetics etc), Agriculture (e.g. Plant Breeding, agronomy, plant-pathogen interactions), Horticulture (crop improvement etc), Forestry and Ecological Sciences (ecosystems and ecological modelling).

As well as developing your subject specific technical and knowledge skills, your degree programme also aims to foster your general transferable skills. These are core skills and abilities that can be applied to a wide range of jobs and industries. Such transferable skills include abilities to: manage your time efficiently; communicate effectively in written and oral formats; apply problem solving and analytical capabilities; work in teams or take leadership. We structure our modules such that both knowledge and transferable skills are integrated and naturally acquired throughout the programme. However, your transferable skills can also be developed and enhanced by joining one of the societies and sports organisations of Newcastle University.

Programme Aims and Objectives

Aims
Graduates in Applied Plant Science acquire knowledge on a range of fundamental and applied Agri-biological science disciplines as well as appropriate analytical skills to develop successful careers in plant science area of the agri-food sector

Objectives
Graduates should:

- Have an understanding of biology, especially as it applies to plants, including molecular biology, biochemistry, cell biology, physiology, genetics, ecology, evolution and systematics
- Have an understanding of plant growth and development and its interaction with the environment.
- Have acquired specific knowledge of fundamental plant science at cellular, molecular and biotechnological levels
- Develop the laboratory and field work skills required for the study of plant science in the context of its application to crop production for food, fibre and pharmaceuticals and in ecological conservation
- Develop an understanding of different agricultural systems
- Develop insights into new technological advancements from cellular to farm level
- Develop insights into use of high throughput tools and technologies for genetic engineering, crop genotyping, crop phenotyping and precision agriculture
• Be able to apply knowledge in crop improvement, breeding, microbiome and ecological sciences
• Understand plant pests and diseases, its resistance and interaction with plants and the environment.
• Have acquired specific knowledge of the agri-food sector;
• Be comfortable with professional terminology and concepts in plant science
• Have graduate-level training in key skills, including the ability to communicate in a variety of contexts, utilise IT and library resources efficiently, process and interpret quantitative data, manage time effectively, and work both independently and in teams
• Be able, both individually and as part of a team, to organise, analyse and solve problems using available information and personal judgement; and,
• Be able to understand communication processes and to communicate effectively, both verbally and in written form.

Course Structure

The Applied Plant Science degree comprises a mix of Agri-Bioscience disciplines. You will have opportunity to take modules in range of agronomic and food sciences.

Stage 1 sets the foundation in terms of scientific & practical principles and an introduction to Biological and Plant Science concepts (mainly Fundamental Concepts). At Stages 2 and 3 you will build upon these core fundamental concepts and disciplines and develop your practical and professional skills. In addition, you will choose optional modules that enable you to tailor your degree in accordance with your personal and career interests. The choice of option modules is something you may wish to discuss with your tutor. You may also consult individual module leaders.

Details of your programme specification and regulations are available on the on the University website at: https://www.ncl.ac.uk/regulations/programme/2019-2020/sciences.php

The listing of modules is also provided towards the end of this supplement. In addition you can find more detailed information on individual modules through the module catalogue: http://www.ncl.ac.uk/module-catalogue/.

Stage 1

In Stage 1 of the Honours Degree programme in Applied Plant Science, students are required to study 6 compulsory modules (100 credits) and a choice of 20 credits to be selected from the optional modules. These Modules are listed below and more detail about the content of each of the modules is provided in the Module Outlines, which can be accessed from the School web page. Students must complete, and satisfy the examiners in all modules at Stage 1 before they can progress to Stage 2.
Stage 2
In Stage 2 you are required to complete 7 compulsory modules (90 credits) and choose a further 30 credits from a list of approved optional modules. The titles of the core and optional modules are listed below and further detail about the content of each of the modules can be obtained from the School web page. Honours students must complete and satisfy the examiners in all modules at Stage 2 before they can progress to Stage 3.

Optional Placement Year
Upon completion of Stage 2 and before entering Stage 3, candidates have the opportunity to spend the equivalent of one academic year in a placement approved by the Degree Programme Director/Placement Coordinator. Students choosing this opportunity will graduate with a Bachelor of Science with Honours in Applied Plant science with Placement. The placement may be within the UK or abroad. If a candidate is not successful in securing a placement, or fails the assessment of the placement year, then the candidate will be required to transfer to Stage 3 of C211. Permission to undertake a placement is subject to the approval of the Degree Programme Director.

Stage 3
In Stage 3 you are required to take 4 compulsory modules (70 credits) which includes a dissertation with a valency of 30 credits. The remaining 50 credits you choose from the optional modules listed in the programme regulations (see below). If you are to make the most of the final year, it is important that you are enthusiastic about your subjects, as they will all involve a considerable amount of private study time.

Teaching Methods
Most modules are taught principally by lectures, some will also involve computer practical’s, tutorials, visiting speakers, farm visits and/or research center/study visits.

In Stage 1 you will often find that modules are shared with other related degree programmes and the group size can therefore be large. Please do not hesitate to contact the module leader if you need help or advice about additional reading.

Some courses also provide tutorials to augment the lectures. Assignments may be set and discussed in these sessions, and again these may contribute to the final mark for a module. Tutorials provide an opportunity for you to seek clarification of some points, which you may not have understood, from the lectures. The more you contribute to them, the more you are likely to benefit.

Teaching in Stage 3 usually places much less emphasis on formal lectures, and a greater emphasis on seminars, tutorials, group discussions and projects in which informal discussions between staff and students play a vital role. You will be expected to read and research certain topics prior to seminars and tutorials, and will be expected to contribute to discussions during them. Your contributions (both formal and informal) on these occasions may be assessed. You will be informed in advance if this is to be the case.
Individual modules may also involve visits to farms and/or research centres and sometimes may be linked to projects or other written exercises. These may also involve contributions from visiting speakers.

The dissertation, which has a valency of 30 credits is an opportunity to study/research a subject-area of your own choice in depth and to develop your presentation and writing skills. As part of the dissertation, you will be required to make a presentation of your work which will be held in the middle of the first semester. As well as the formal presentation, you will be required to answer any questions raised by staff or fellow students.
Reading and Data Resources
Students are expected to engage in independent reading and study beyond the core lecture/class material. Suggested reading lists will be supplied by each module leader.

Assessment
Modules are marked according to the convention:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>First Class</td>
<td>&gt;70%</td>
</tr>
<tr>
<td>Upper second class</td>
<td>60-69</td>
</tr>
<tr>
<td>Lower second class</td>
<td>50-59</td>
</tr>
<tr>
<td>Third class</td>
<td>40-49</td>
</tr>
<tr>
<td>Fail Honours</td>
<td>&lt;40</td>
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</tbody>
</table>

All modules will be examined by the end of the semester in which they are taught. Most will involve a formal examination and an assessment of coursework. The exact breakdown of marks for each component is either listed in the module outline or will be fully explained at the start of the module. Please ensure that you understand the assessment method for each module.

Formal examinations for modules with a valency of 10 credits will normally be a two hour examination. All modules will be examined by the end of the semester in which they are taught.

In-course assessments may take the form of essays/reports, projects, practical exercises or oral examinations.

You are reminded of the School’s examination conventions with respect to the submission of continuous assessment work. The school has a set policy for late submissions, so you should be careful to submit all assessments well in advance of the deadline. If work is submitted within 7 calendar days of the deadline, it will be capped at the pass mark (40 for undergraduate programmes). If you submit a piece of work more than 7 days after the deadline, it will receive a mark of zero.

You are also required to retain and, if asked, to make available to the examiners, any or all of the continuously assessed work which contributes to your degree and which has been returned to you after marking. You should therefore be able to produce, if required to do so, work from both Stage 2 and Stage 3.

In addition to the normal internal marking, Honours examinations (Stage 2 and 3 Modules) will be subject to scrutiny by an external examiner from another University. This also applies to the dissertation.
Contribution to Final Degree Classification

Stage 1
There is no formal carry-over of marks from Stage 1 to later stages of the Degree Programme. However, it is important to remember that you cannot progress to Stage 2 until you have satisfied the examiners in all Stage 1 modules covering 120 credits (i.e. you have achieved a mark of 40% or more in each module).

Knowledge that you gain from study of Stage 1 modules forms the basis of your future studies in Stage 2 and Stage 3. Therefore, it is beneficial for you to aim to do as well as you can – not just to achieve the minimum pass mark of 40%. Generally, students that perform well in Stage 1 examinations do better in the remainder of their degree programme than students who only achieve a borderline pass at the end of Stage 1. Those at the borderline generally tend to fail more examinations and, as a consequence have more resits.

Stage 2
In Stage 2 the normal rule applies, that students must satisfy the examiners in all 120 credits at Stage 2 before they can progress to Stage 3. Also, in this Degree Programme the marks awarded for assessments in Stage 2 contribute to your final degree classification. The weighted mean of your Stage 2 results will contribute 25% of the marks determining your final grade.

Stage 3
The 120 Stage 3 credits contribute 75% to your overall average mark, the remaining 25% having been decided at Stage 2. Your final degree classification is therefore based partly on your performance at Stage 2, but mostly on your performance at Stage 3.

Your final grade is decided on the basis of the Stage 2 and Stage 3 average. A full description can be found in the University Regulations, Undergraduate Examination Conventions.

Information about the dissertation, the rules relating to it and some hints for your guidance are presented as a separate handbook.
Summary of Programme Commitments

The University’s Student Charter is available on the internet at https://www.ncl.ac.uk/pre-arrival/regulations/#studentcharter. It is also provided to all students as part of the Student Guide. In the Student Charter, the University undertakes to provide you with access to ‘high standards of teaching, support, advice and guidance’.

The Student Charter requires that students are provided with a ‘programme handbook which details any professional requirements, contact hours, mode of course delivery, assessment criteria, examination arrangements and regulations, academic guidance and support, and appeals and complaints procedures’. The purpose of this Summary is to help you locate further details about this key information in your School Handbook.

Your School Handbook also contains a range of other valuable information, so you should read it thoroughly and retain a copy for future reference.

Your attention is also drawn to the Student Charter Supplementary Statement of Student Rights and Responsibilities. Further information on this can be found at https://www.ncl.ac.uk/media/wwwnclacuk/pre-arrival/files/Student%20Charter%20for%202018.pdf
# Summary of the Degree Programme

<table>
<thead>
<tr>
<th>Average number of contact hours for this stage / programme:</th>
<th>In stage 1 you will undertake approximately 16 hours per week of contact time.</th>
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</thead>
<tbody>
<tr>
<td>Mode of delivery:</td>
<td>Delivery modes on the agriculture programme include lectures, seminars, field work, laboratories, practical exercises, distance learning.</td>
</tr>
<tr>
<td>Normal notice period for changes to the timetable, including rescheduled classes:</td>
<td>Wherever possible, changes to the programme will be notified at least 1 week in advance, on occasion it may be necessary to make amendments at short notice; wherever possible these will not involve change to time or location, it may be that adjustment is needed due to weather conditions or at the request of a visit host.</td>
</tr>
<tr>
<td>Normal notice period for changes to the curriculum or assessment:</td>
<td>Changes to assessment or curriculum will be notified at least 1 semester in advance and will (in the case of selected modules) be subject to agreement in advance.</td>
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<tr>
<td>Normal deadline for feedback on submitted work (coursework):</td>
<td>The school operate a target turnaround of 20 working days from submission date to offer feedback on assessed submissions.</td>
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<tr>
<td>Normal deadline for feedback on examinations:</td>
<td>The normal deadline for feedback on examinations is immediately following the board of examiners appropriate to the examination period. Where a candidate has exceptional circumstances for completion of examinations, the feedback may be adjusted accordingly.</td>
</tr>
<tr>
<td>Professional Accreditation:</td>
<td>There are currently no professional accreditations associated with the programme, additional qualifications will be advised.</td>
</tr>
<tr>
<td>Assessment methods and criteria:</td>
<td>Assessment methods and weighting are identified in the Module Outline Form available on the University web site. Assessment methods will include coursework, examinations, field work, practical, oral and case study exercises.</td>
</tr>
<tr>
<td>Academic guidance and support:</td>
<td>Academic guidance and support is available to all candidates via the tutorial system, though seminar sessions with module tutors and through the University’s support mechanisms.</td>
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</tbody>
</table>
Programme specification and regulations

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