



# BSc (Hons) / BSc Agriculture with Crop Management (Top-up)

<b>UCAS code</b>	BSc: D49N BSc (Hons): D499
<b>Institution code</b>	H12
<b>Duration</b>	1 year (full-time)
<b>Start date</b>	September 2022
<b>Location</b>	<a href="#">Harper Adams University campus*</a>

## The course

Having completed a Foundation Degree or HND programme in Agriculture you may wish to top-up to either a BSc or BSc (Hons) degree, by studying full-time for a further academic year to specialise in the area of Agriculture with Crop Management.

## Entry requirements

- Top-up applicants must have achieved an average of 55% in their Foundation degree to apply for BSc non-honours and 60% to apply for BSc Honours.
- Applicants must have completed a full year's placement as part of their course of study or two years of full-time relevant employment out with the family business after their course.
- In addition to meeting the foundation degree requirements, applicants must also satisfy the GCSE and Level 3 entry requirements of our own Foundation degree courses.

## A-level entry requirements

- **Entry requirements for 2022 entry are not currently available. Please contact Admissions for advice**

## Teaching and learning

### What you study

Top-up programmes are structured around lectures, tutorials and practical classes designed to augment material covered in previous studies and allow students to develop the subject expertise and depth of knowledge required at BSc and BSc (Hons) degree level.

### Teaching and learning

Top up courses at Harper Adams involve a combination of lectures, tutorials and laboratory sessions as

appropriate for the subject area, together with use of the University Farm to demonstrate principles in practice and the application of scientific, technological and business principles to commercial crop production. In addition, the university has extensive links with other agricultural and food related businesses, and external visits and outside speakers are integrated into the programme. Students are expected to apply the skills acquired to solve real-life problems, such that on completion they are able to demonstrate both academic ability and commercial application, which is a combination highly valued by employers. As part of the programme students undertake a dissertation in a subject area of their choice.

## **Assessment methods**

Assessment is via a balance of course work and examination; this allows individuals to play to their strengths if they are better at course work than examinations or vice versa. Types of assignment include appraising production systems on the University farm, whole farm case studies, laboratory based analyses and literature based reviews. Format of assignments varies and includes written reports, essays, technical notes, presentations and oral examinations. Students receive written feedback on all course work to help them improve.

# What will I study?

## BSc (Hons) Top-up

Year 1	
Honours Research Project (HRPROJC17)	30
Research Methods (C5005C17)	15
Sustainable Crop Production (C4017C17)	15
Applied Crop Protection (C6004C17)	15
Advanced Agronomy (C6002C17)	15
Plant Breeding (C6011C17)	15
Post Harvest Technology (C6012C17)	15

### Honours Research Project

<b>Year of study</b>	1
<b>Code</b>	HRPROJC17
<b>Credits</b>	30
<b>Core/option</b>	Core

The Honours Research Project is designed to allow students to develop the skills and personal resilience needed to undertake a sustained, significant and high quality project. In conjunction with his or her supervisor, and in light of detailed course specific advice, each student will select a topic for investigation. They will then plan, execute and report their project. The module will draw upon learning from other taught modules, but it also requires a high degree of independent learning.

Students will need to apply their learning about the research methods associated with their discipline as they locate data to support their project; they may need to apply methods creatively according to the nature of their research topic. Throughout the module, students will be expected to make choices about the scale and manageability of their work; they will also need to apply good time management skills to ensure success. The project will require all students to search for literature related to their topic and to read independently. Students must make decisions about the direction of their research, and they will be expected to work pro-actively to benefit from supervision opportunities.

Students will be expected to ensure that each part of their project is ethically sound; this means following protocols but also by developing an ethical mind-set which is sensitive to stakeholders and issues arising in the research process. Students must ensure that they attend to issues of health and safety throughout their research.

### Research Methods

**Year of study** 1  
**Code** C5005C17  
**Credits** 15  
**Core/option** Core  
**Module contact** [Dr Edward Dickin](#)

This module is the fourth in the Professional Scholarship Programme (PSP). The module particularly develops the skills and knowledge necessary to successfully complete the Honours Research Project, which will also enhance employability skill for the Placement Period and careers on graduation.

The module will cover the key elements of the research process, set in the context of the student's own course discipline. Students will examine the academic and industrial role of research and how it informs professional and managerial practice. They will enhance their ability to locate, select and critically evaluate information associated with a particular problem, using a range of sources and particularly peer reviewed empirical studies. In addition the students will plan, and justify the need, and investment for research in an effort to develop their insight into the management of practical research. By carrying out statistical analysis using appropriately accessible software, the students will develop their ICT skills and further their understanding of the role of statistics in the research process.

While the intended learning outcomes are common to all students across the University, this module provides discipline specific focus with content, learning and assessments that are tailored for subject/course needs, which will then lead to value interpretation and communication of research outcomes.

## **Sustainable Crop Production**

**Year of study** 1  
**Code** C4017C17  
**Credits** 15  
**Core/option** Core

The module will cover the main crop production systems characteristic of NW Europe with some reference to energy crops, grass and forage production and global crop production. The module will also familiarise students with aspects of soil and water, farm mechanisation and farm buildings relevant to the subject area in order to provide a greater understanding of elements which can affect production costs and land management and values.

The module will introduce the basics of crop production and then focus on key elements within the production cycles which contribute to the costs and value of the enterprises. Crop production 'best practice' for a range of food and non-food crops and will be related to the need for resource efficient, economic and environmentally acceptable production linked, where necessary, to the current UK farm subsidy schemes in operation.

The module will provide the necessary basic understanding of crop production practices and the related regulatory framework appropriate for higher level study.

## **Applied Crop Protection**

**Year of study** 1  
**Code** C6004C17  
**Credits** 15  
**Core/option** Core  
**Module contact** [Louisa Dines](#)

This module is concerned with enabling students to make informed decisions on appropriate crop protection measures for the major Northern European arable crops through critical evaluation of relevant research and knowledge of legislative requirements and commercial constraints.

It will build upon the principles of basic crop agronomy taught in the module Crop Production Systems and the principles behind the use of plant protection products taught in the modules Crop Protection and Technology and Crop Production Science to synthesise comprehensive crop protection programmes. It will

be complementary to the Advanced Agronomy module which focuses on specific areas of research which will be critically evaluated to inform the crop protection programmes synthesised in this module.

Upon completion of this module students will have achieved competencies in line with the pre-requisites required for access to the BASIS Certificate in Crop Protection which is a statutory requirement for those giving advice on plant protection products.

## Advanced Agronomy

**Year of study** 1  
**Code** C6002C17  
**Credits** 15  
**Core/option** Core

This module is specifically designed to build on the principles taught in the modules Crop Production Systems, Soil and Plant Nutrition, Crop Protection and Technology/Crop Growth and Management. The module will demonstrate how an in-depth understanding of agronomy, precision farming, pest, disease and weeds can assist with the formulation of integrated crop protection plans which utilise the cultural, chemical and biological control methods required in current crop assurance strategies. Similarly, the module will endeavour to develop a greater understanding of crop and soil nutrition in order for students to formulate environmentally sound crop nutrition plans.

Students studying this module should develop agronomy knowledge in line with the pre-requisites required for access to training for professional accreditation, e.g. BASIS and FACTS.

- Evaluate the major agronomic, nutrient, pest, disease and weed problems found in mainstay UK crops.
- Synthesise crop protection, nutrition and agronomic strategies relative to site, crop, target organism, farming system and the environmental impact of those strategies.
- Demonstrate awareness of the regulatory legislative constraints which may contribute to the agronomic decision making process.

## Plant Breeding

**Year of study** 1  
**Code** C6011C17  
**Credits** 15  
**Core/option** Core  
**Module contact** [Dr Edward Dickin](#)

Plant breeding either by conventional or biotechnological means, is essential to the success of crop production. The continual increases in yield traits of crops, along with improved quality and pest resistance is attributable to changes in agronomy (which is covered in other modules) and ongoing breeding programmes.

Conventional crop breeding programmes are based on fundamental genetic principles and an awareness of these principles is essential for the understanding of how breeding programmes work. In addition, the advent of modern biotechnological methods to genetically modify crops is becoming increasingly relevant to crop improvement globally. Not only for its potential for weed, disease and insect pest control, but also because of the wider ethical and societal implications that the use of this technology brings.

This module, therefore, will also examine the methods used to transform plants and appraise their success, as well as examining future developments alongside the issues surrounding their release and commercial use.

## Post Harvest Technology

**Year of study** 1  
**Code** C6012C17  
**Credits** 15  
**Core/option** Core  
**Module contact** [Professor Jim Monaghan](#)

Whilst much focus is given to the growing of crops, incorrect storage and handling practices after harvest may cause a large and unnecessary loss of crops. An understanding of the physiological basis for effective crop conservation and storage can aid the development of strategies that minimise post harvest losses and quality deterioration. This is a technically demanding part of the production cycle with a global impact on food supplies. As such the module will utilise research findings from an international perspective to present recent progress in the field of post harvest technology.

The purpose of this module is to develop a knowledge and understanding of the underlying processes that influence post harvest quality of a range of durable and perishable crops. The module will be of benefit to those students considering a career in cereal, root crop or fresh produce crop production.

- Compare and contrast the crop physiological factors influencing post harvest quality of durable and perishable crops.
- Integrate an understanding of the requirements of specific crops with optimised post harvest storage environments
- Propose and justify post harvest treatments that maximise quality and minimise losses in a range of durable and perishable crops.
- Choose and modify post harvest treatments and storage environments to ensure the safety of durable and perishable crops.

## BSc Top-up

Year 1	
Degree Review Project (DRPROJC17)	15
Sustainable Crop Production (C4017C17)	15
Applied Crop Protection (C6004C17)	15
Advanced Agronomy (C6002C17)	15
Plant Breeding (C6011C17)	15
Post Harvest Technology (C6012C17)	15

### Degree Review Project

**Year of study** 1  
**Code** DRPROJC17  
**Credits** 15  
**Core/option** Core

Although Ordinary Degree students are not required to engage in the research based major projects completed by honours degree candidates, it is necessary that they display the ability, at Honours level, to: learn independently and display the skills required for lifelong learning; to demonstrate awareness of the provisional nature of facts and principles and to marshal evidence and apply it in a balanced way in an argument and to draw soundly based conclusions. The development of these skills is the purpose of this

module.

## **Sustainable Crop Production**

**Year of study** 1  
**Code** C4017C17  
**Credits** 15  
**Core/option** Core

The module will cover the main crop production systems characteristic of NW Europe with some reference to energy crops, grass and forage production and global crop production. The module will also familiarise students with aspects of soil and water, farm mechanisation and farm buildings relevant to the subject area in order to provide a greater understanding of elements which can affect production costs and land management and values.

The module will introduce the basics of crop production and then focus on key elements within the production cycles which contribute to the costs and value of the enterprises. Crop production 'best practice' for a range of food and non-food crops and will be related to the need for resource efficient, economic and environmentally acceptable production linked, where necessary, to the current UK farm subsidy schemes in operation.

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## **Applied Crop Protection**

**Year of study** 1  
**Code** C6004C17  
**Credits** 15  
**Core/option** Core  
**Module contact** [Louisa Dines](#)

This module is concerned with enabling students to make informed decisions on appropriate crop protection measures for the major Northern European arable crops through critical evaluation of relevant research and knowledge of legislative requirements and commercial constraints.

It will build upon the principles of basic crop agronomy taught in the module Crop Production Systems and the principles behind the use of plant protection products taught in the modules Crop Protection and Technology and Crop Production Science to synthesise comprehensive crop protection programmes. It will be complementary to the Advanced Agronomy module which focuses on specific areas of research which will be critically evaluated to inform the crop protection programmes synthesised in this module.

Upon completion of this module students will have achieved competencies in line with the pre-requisites required for access to the BASIS Certificate in Crop Protection which is a statutory requirement for those giving advice on plant protection products.

## **Advanced Agronomy**

**Year of study** 1  
**Code** C6002C17  
**Credits** 15  
**Core/option** Core

This module is specifically designed to build on the principles taught in the modules Crop Production Systems, Soil and Plant Nutrition, Crop Protection and Technology/Crop Growth and Management. The module will demonstrate how an in-depth understanding of agronomy, precision farming, pest, disease and weeds can assist with the formulation of integrated crop protection plans which utilise the cultural, chemical and biological control methods required in current crop assurance strategies. Similarly, the module will endeavour to develop a greater understanding of crop and soil nutrition in order for students to formulate environmentally sound crop nutrition plans.

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## Plant Breeding

**Year of study** 1

**Code** C6011C17

**Credits** 15

**Core/option** Core

**Module contact** [Dr Edward Dickin](#)

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**Year of study** 1

**Code** C6012C17

**Credits** 15

**Core/option** Core

**Module contact** [Professor Jim Monaghan](#)

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