HARPER ADAMS UNIVERSITY
Module Descriptor

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<tr>
<td>1</td>
<td>Module Title: BASIS Certificate In Crop Protection – Amenity Horticulture (Skill Area - Invasive and Injurious Weeds)</td>
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<td>2</td>
<td>Academic Department: Crop and Environment Sciences</td>
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<td>3</td>
<td>Module Author: Dr Andy Brooks</td>
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<td>4</td>
<td>Module Number: C6053</td>
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<td>5</td>
<td>Credit Value: 5</td>
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<td>6</td>
<td>Level: 6</td>
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<td>7</td>
<td>Pre-requisite Achievement: BASIS Certificate In Crop Protection – Amenity Horticulture (Core)</td>
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<td>8</td>
<td>Co-requisites: None</td>
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<td>9</td>
<td>Excluded Combinations: None</td>
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<td>10</td>
<td>Module Approval Date: 28th May 2015</td>
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<td>11</td>
<td>Start and Expiry Date of Module: May 2015 – August 2020</td>
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<td>12</td>
<td>Courses for which Module Validated: Professional Short Course Suite (not counted for the GDAEM)</td>
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RATIONALE AND CONTEXT

Amenity Horticulture covers many sectors: industrial sites, construction sites, management of invasive species (native and non-native), sport stadiums and area, shrubs and borders in parks, management of the ponds and lakes, and many others.

This specific module will develop an understanding of invasive weeds including: what they are and how they can be identified; the harm that they do; how they develop, spread and reproduce; the options available for control with recognition of differences in levels of control and cost effectiveness; the environmental implications of each control option.

This module addresses the University mission in promoting widening participation and the recognition of work related learning through the award of academic credit. It is designed to provide the underpinning knowledge and understanding required by those Selling and Supplying pesticides and those involved as crop protection advisers.

Intended Learning Outcomes

1. Identify individual invasive weed species (native and non-native) at each stage of growth and evaluate the reproduction and colonisation patterns of the weeds.

2. Evaluate the options for control of invasive weeds by mechanical, chemical and biological means and the merits of each.

3. Evaluate the impact of control strategies on operator safety and the environment (natural resources and biodiversity).
4 Evaluate the economic and environmental benefits of technological advances and developments in controlling the injurious species.

**Indicative Content**

**Integrated management of the invasive species:** Integrated control strategies taking into account chemical and non-chemical methods and legislative aspects of chemical control in fighting invasive species.

**Recognition and knowledge of the damage generated by the invasive (native and non-native) species:** Damage due to the environment; Damage to the biodiversity; Damage to the infrastructure; Recognise the lookalike species.

**Legislation and Authorities related to the invasive species:** Knowledge of the authorities that need to be informed on invasive species, understanding the support schemes available to assist good working practices in fighting the invasive species.

**Composition, activity and persistence of chemicals and non-chemical agents:** Nature of pesticides and biological control agents; Formulation of pesticides, mode of action, persistence, resistance; Biological agents.

**Application of chemicals:** Equipment, techniques and legal requirements.

**Safe use, handling, transport and storage of crop protection chemicals:** Hazards, safety and legal requirements.

**Protection of people and environment:** Safe practice procedures and precautions.

**LEARNING AND TEACHING STRATEGY**

**Nature of student support**

Candidates for the BASIS Certificate in Crop Protection – Amenity Horticulture (Invasive and Injurious Weeds) are provided with comprehensive course notes which form the basis of student support for the learning outcomes outlined above. This is supplemented by tuition which has been developed to address the requirements of the module. Candidates will normally be employed in the Crop Protection industry or will have experience of amenity horticulture. Tuition will be in the form of small group delivery and will include field or laboratory classes and workshops.

**Support through Virtual Learning Environment**

None.

**Pattern of study including links to other module delivery**

Students will be provided with a link to pre-course reading in advance of the taught elements of the course and will be required to complete this so they are familiar with the key aspects of the syllabus. In addition to pre-course reading, students will also be provided with a set of fundamental key questions that are specific to the module. The key questions will be directly related to the module outcomes and will require students to draw and reflect upon their existing professional and field experience, and contextualise this within their impending course of study. Students will be required to provide a response to the key questions prior to the start of the taught course and group discussion of answer themes with module tutors will take place during the course delivery.
The taught element of the course will normally be delivered as a two day short course.

Variations for different course groups

None.

ASSESSMENT STRATEGY

Assessment format

The candidates have to pass four assessment elements to meet the module outcomes:

• Time constrained written examination (30 multiple choice questions), marked by BASIS. Pass mark 70%.
• Time constrained practical test identifying weeds, pests, diseases and / or pieces of equipment (10 samples in total), marked by BASIS. Pass mark 85%.
• Time constrained simulated site exercise covering the skill area selected. This exercise will also incorporate elements of the core modules where appropriate, pass score 60%, marked by BASIS.
• VIVA examination assessing the ability of the candidates to apply their knowledge and understanding within the practical context. VIVAs are conducted by experienced BASIS examiners and must be completed satisfactorily. Pass mark 70%.

Marks from each component of assessment are calculated to provide a single mark, recorded as either pass or fail and candidates will be required to pass all elements in order to successfully pass the module.

Outcomes assessed

The practical test covers outcome 1 and the written exam focuses on outcome 1 but also addresses elements of outcomes 2, 3 and 4. The oral examination will cover all learning outcomes.

Timing of assessments, including final assessment element

The assessments follow the taught short course.

Variations for different course groups

N/A.

Essential Reading (correct at time of approval but subject to regular updates through annual reading lists)

DEFRA 2010. Determining the Usage and Usage Patterns of Amenity Pesticides Across the UK PS2806. file:///C:/Users/00708250/Downloads/PS2806_10135_FRP.pdf

**Recommended Reading** (correct at time of approval but subject to regular updates through annual reading lists)


**Recommended Websites:**

- **Crop Protection Association** [www.cropprotection.org.uk/](http://www.cropprotection.org.uk/)
- **DEFRA** [www.defra.gov.uk/](http://www.defra.gov.uk/)
- **Environment Agency** [www.environment-agency.gov.uk/](http://www.environment-agency.gov.uk/)
- **NNSS** [http://www.nonnativespecies.org/home/index.cfm](http://www.nonnativespecies.org/home/index.cfm)
- **Joint Nature Conservation Committee** [http://jncc.defra.gov.uk/page-5150](http://jncc.defra.gov.uk/page-5150)

**HEAD OF DEPARTMENT APPROVAL:**

Dr Andy Wilcox

**Date:** 28th May 2015