

Higher National Unit Specification

General information for centres

Unit title: Pestology

Unit code: DV9E 34

Unit purpose: This Unit is designed to introduce candidates to the concepts of pest recognition and control. The Unit would be suitable for anyone considering a career in Environmental Health or Pest Control.

On completion of the Unit the candidate should be able to:

- 1 Identify and describe pests from their physical appearance and signs of infestation.
- 2 Explain and recommend control methods using knowledge of the pests' life cycle.

Credit points and level: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. However, it would be beneficial if the candidate had achieved a relevant biology qualification. This could be demonstrated by possession of Biology at Higher level.

Core Skills: There are opportunities to develop Core Skill of Problem Solving at Higher level in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes. This Unit is included as an option in the framework of the HND Environmental Sciences.

Assessment: This Unit should be assessed by a separate assessment for each Outcome. Assessments should be carried out on a sample basis.

Assessment for Outcome 1 will take the form of a closed-book assessment consisting of a set of short questions carried out under supervised controlled conditions. Evidence for Outcome 2 should be generated through assessment undertaken in closed-book supervised controlled conditions.

The sections of the Unit stating the Outcomes, knowledge and/or skills, and Evidence Requirements are mandatory.

Higher National Unit specification: statement of standards

Unit title: Pestology

Unit code: DV9E 34

The sections of the Unit stating the Outcomes, knowledge and/or skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Identify and describe pests from their physical appearance and signs of infestation

Knowledge and/or skills

- ◆ Identification of pests: invertebrates, mammals, birds, rodents
- ◆ Macroscopic and microscopic appearance
- ◆ Infestation indications

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can identify and describe correctly eight pests presented in a series of spot questions. The questions should sample two examples each of invertebrates, mammals, birds and rodents to include all of the above knowledge and/or skills. Examples of pests from each category which may be used in assessment are given in the Support Notes. The assessment of this Outcome should be undertaken under closed-book supervised controlled conditions. The response should be specific to the pest, eg oriental cockroach not just cockroach.

Assessment guidelines

The short questions should relate to a series of examples of physical appearance of the pest and signs of pest infestations presented in the form of visual spot questions, eg:

- ◆ photographs of pests or signs of infestation.
- ◆ microscope slides.
- ◆ actual preserved examples, eg insects
- ◆ representations of animal droppings.

A sample of 12 questions would be appropriate to cover all areas in the knowledge and skills.

Higher National Unit specification: statement of standards (cont)

Unit title: Pestology

Outcome 2

Explain and recommend control methods using knowledge of the pest's life cycle

Knowledge and/or skills

- ◆ Control methods: chemical, physical
- ◆ Pest's life cycle: ectoparasites, endoparasites
- ◆ Health and economic implications

Evidence Requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can provide a response of approximately 1,200–1,500 words in total relating to three extended response questions. The extended response questions should sample one pest from three of the four categories in Outcome 1:

- ◆ Mammals
- ◆ Invertebrates
- ◆ Birds
- ◆ Rodents

The extended response questions should provide the opportunity for candidates to demonstrate their knowledge of the pest's life cycle and skills in recommending appropriate chemical and physical methods of pest control depending on the situation with which they are presented. Candidates should be aware of the health and economic implications of pest infestations.

The assessment of this Outcome should be undertaken using closed-book supervised controlled conditions.

The extended response questions should be contextualised and offer sufficient information to allow candidates to analyse the site of the infestation and know which pest is involved. Questions should enable candidates to display knowledge and understanding of each pest's life cycle and relate that to the candidate's choice of chemical and physical control methods. The situations presented should be both commercial and domestic.

Assessment guidelines

The assessment of this Outcome could be conducted as a single assessment event lasting 1½ hours or three single events lasting 30 minutes each. In both cases the assessment should be carried out in closed-book supervised controlled conditions. The extended response questions should relate, as far as possible, to actual conditions which someone investigating pest control may encounter. The situations presented should be both commercial and domestic. Candidates should be aware of the health and economic implications of pest infestations.

Administrative Information

Unit code:	DV9E 34
Unit title:	Pestology
Superclass category:	QD
Date of publication:	August 2005
Version:	01
Source:	SQA

© Scottish Qualifications Authority 2006

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Customer Contact Centre for further details, telephone 0845 279 1000.

Higher National Unit specification: support notes

Unit title: Pestology

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit is primarily intended to provide candidates with an understanding of organisms regarded as pests. The Unit will provide knowledge of pests, their habitats, hosts, biology or life cycles and methods of control.

Examples of pests which could be studied in both Outcomes 1 and 2 are:

- ◆ Invertebrates: insects, arachnids, parasites, eg flukes and worms
- ◆ Mammals: foxes, squirrels, rabbits and moles
- ◆ Birds: pigeons, seagulls, doves and crows
- ◆ Rodents: common and black rat, mice

Outcome 1 examines the macroscopic and, where appropriate, microscopic appearance of the pest. Infestation indications from other physical evidence including, eg animal runs, eggs, faecal droppings and tissue histology should also be studied.

Outcome 2 should introduce the biology/life cycle of pests including ectoparasites and endoparasites. Recommended chemical and biological methods of control should be explored including hazards which they may present to other animals. Physical control methods should include methods of preventing pest infestations. If the chemical and physical control method is subject to legislation in its use this should be highlighted.

Guidance on the delivery and assessment of this Unit

This Unit is designed to form part of a Group Award in Environmental Sciences. Candidates should have work based experience in pest control or a background in basic biology. Owing to the breadth of the topics it is recommended that the key areas of each topic are covered to an appropriate level. Emphasis should be placed on pests likely to be encountered in Britain unless there are reasons for the scope to be widened to other countries.

The Unit should be delivered by lectures/tutorials and some laboratory based work, although there is no requirement for laboratory practicals.

All assessments should be held under closed-book supervised controlled conditions. The assessment may consist of a single event at the end of the Outcome or three single events given at an appropriate part of Outcome delivery. If the assessment is a single event it should be of no more than 1½ hours duration. If assessment consists of three events, each event should be of no more than 30 minutes.

Opportunities for developing Core Skills

There may be opportunities for developing the Core Skill of Problem Solving at Higher level. This can be demonstrated in Outcome 2.

Higher National Unit specification: support notes (cont)

Unit title: Pestology

Open learning

Although this Unit could be delivered by distance learning, it would require a considerable degree of planning by the centre to ensure the sufficiency and authenticity of candidate evidence.

Arrangements would have to be made to ensure that the assessments for Outcome 1 and 2 are delivered in a supervised environment under controlled conditions. Delivering centres will be responsible for ensuring authenticity of candidate's work. For information and advice please refer to Assessment and Quality Assurance for Open and Distance Learning (SQA, February 2001 — publication code A1030).

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: www.sqa.org.uk.

General information for candidates

Unit title: Pestology

This Unit is designed to enable you to acquire the knowledge and skills relating to pest control necessary for a career in Environmental Health or similar area.

You will learn how to identify pests from both their physical appearance and from environmental signs indicating their presence. In addition, you will also study the biology/life cycle of pests and learn to relate this to appropriate methods of pest control.

The Unit will be delivered by lectures/tutorials and some laboratory based work although there is no requirement for laboratory practicals.

To complete this Unit successfully candidates will have to:

- 1 Identify and describe pests from their physical appearance and signs of infestation.
- 2 Explain and recommend control methods using knowledge of the pest's life cycle.

Assessments will be held under closed-book supervised controlled conditions. Outcome 1 will be assessed by short questions where you are presented with either the pest or other information in a visual format which shows signs of their infestation. Outcome 2 will be assessed by extended response question(s). If the assessment is a single event it will last no more than 1½ hours.