



## National Unit specification: general information

**Unit title:** Pharmacology: An Introduction

**Unit code:** FH2A 12

**Superclass:** PE

**Publication date:** August 2012

**Source:** Scottish Qualifications Authority

**Version:** 04

### Summary

This Unit has been designed to develop knowledge, understanding and problem solving regarding the general actions and uses of drugs. This Unit is a mandatory Unit of the National Certificate in Pharmacy Services but can also be taken as a free-standing Unit.

It is designed primarily for staff working in or towards a career in the healthcare sector. However it may also be suitable for somebody with an interest in the subject area.

### Outcomes

- 1 Describe the basic principles of pharmacology.
- 2 Solve problems relating to the basic principles of pharmacology.

### Recommended entry

While entry is at the discretion of the centre, candidates would normally be expected to have some knowledge, understanding and skills relating to human physiology. This could be demonstrated by candidates attaining:

- ◆ Standard Grade Biology with Knowledge and Understanding and Problem Solving at a minimum of Grade 3 or equivalent
- ◆ Higher Human Biology or NQ Unit Human Physiological Processes or equivalent

### Credit points and level

0.5 National Unit credit at SCQF level 6: (3 SCQF credit points at SCQF level 6\*)

*\*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.*

## **National Unit specification: general information (cont)**

**Unit title:** Pharmacology: An Introduction

### **Core Skills**

There is no automatic certification of Core Skills or Core Skill component in this Unit.

## **National Unit specification: statement of standards**

### **Unit title:** Pharmacology: An Introduction

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

#### **Outcome 1**

Describe the basic principles of pharmacology.

#### **Performance Criteria**

- (a) The advantages and disadvantages of common routes of drug administration are described correctly.
- (b) The fate of drugs in the body is described correctly.
- (c) The basic principles of drug action are described correctly.
- (d) The factors relating to drug usage are described correctly.

#### **Outcome 2**

Solve problems relating to the basic principles of pharmacology.

#### **Performance Criteria**

- (a) Relevant information is selected and presented appropriately.
- (b) Information is accurately processed using calculations where appropriate.
- (c) Conclusions drawn are valid.

## **National Unit specification: statement of standards (cont)**

**Unit title:** Pharmacology: An Introduction

### **Evidence Requirements for this Unit**

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

Written and/or oral evidence is required to demonstrate that the candidate has achieved all Outcomes and Performance Criteria.

Outcomes 1 and 2 should be assessed under controlled conditions by a single holistic closed-book assessment of one hour duration covering all of the above Performance Criteria.

Candidates must be provided with the appropriate British National Formulary (BNF) and should be allowed access to a non-programmable scientific calculator.

#### **Outcome 1**

- ◆ Candidates must describe at least one advantage and one disadvantage from three out of four of the common routes of administration listed.
- ◆ Candidates must describe at least three factors relating to the fate of drugs in the body.
- ◆ Candidates must describe at least three basic principles of drug action.
- ◆ Candidates must describe at least five factors relating to drug usage.

#### **Outcome 2**

- ◆ Candidates must select relevant information from the question and from the BNF.
- ◆ Candidates must present the information accurately on the assessment paper.
- ◆ Candidates must process the information accurately, undertaking one calculation where appropriate.
- ◆ Candidates must draw valid conclusions from the information.

## National Unit specification: support notes

### Unit title: Pharmacology: An Introduction

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 20 hours.

### Guidance on the content and context for this Unit

This Unit forms part of the NC Pharmacy Services and it is recommended that it is taught with the other Pharmacology units in the National Certificate in Pharmacy Services.

#### Outcomes 1 and 2

The advantages and disadvantages of common routes of drug administration are described appropriately.

##### (a) Routes of administration

- ◆ Oral
- ◆ Injectable (intravenous, intramuscular, intradermal, intrathecal, subcutaneous)
- ◆ Mucosal (rectal, vaginal, inhalation, nasal)
- ◆ Topical (eye, ear, skin)

##### (b) The fate of drugs in the body is described appropriately.

- ◆ Absorption, distribution, metabolism, excretion.
- ◆ Bioavailability/Pharmacodynamics.
- ◆ Effect of the above on drug dosage.

##### (c) The basic principles of drug action are described appropriately.

- ◆ Receptor theory: agonists, antagonists, enzyme inhibitors.
- ◆ Specific and non-specific action.
- ◆ Onset and duration of action.

##### (d) The factors relating to drug usage are described appropriately.

- ◆ Drug interactions.
- ◆ Adverse drug reactions.
- ◆ Tolerance, dependence, idiosyncracancies.
- ◆ Age, sex, race.
- ◆ Renal and hepatic function.
- ◆ Pregnancy and breastfeeding.
- ◆ Reproduction and foetal development.

## National Unit specification: support notes (cont)

**Unit title:** Pharmacology: An Introduction

### Guidance on learning and teaching approaches for this Unit

The learning and teaching of pharmacology is most effective when concepts, principles and theories are set in a relevant context e.g. making reference to applications of pharmacology in healthcare situations.

Learning and teaching approaches should include lectures and group work reinforced by handouts and worksheets which should incorporate problem solving exercises. Worksheets should be designed to encourage students to use a wide range of textbooks and reference sources to solve problems.

This Unit must be taught by a pharmacist, pharmacy technician, or pharmacologist. If the Unit is taught by a pharmacologist, the Unit must be planned with input from a pharmacist or pharmacy technician to ensure that the Unit content is placed within a pharmacy context.

### Opportunities for developing Core Skills

There is no automatic certification of core skills or core skills components for this unit, however there may be opportunities to develop component of the core skill of *Problem Solving* at SCQF level 5.

### Guidance on approaches to assessment for this Unit

Outcomes 1 and 2 should be assessed under controlled conditions by a single holistic closed-book assessment of one hour duration covering all of the above Performance Criteria.

Achievement of Outcomes 1 and 2 could be demonstrated by use of a cut-off score. Any cut-off score must be commensurate with the minimum evidence requirements of the Unit Specification.

Candidates must be provided with the appropriate British National Formulary (BNF) and should be allowed access to a non-programmable scientific calculator.

### Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

## **National Unit specification: support notes (cont)**

**Unit title:** Pharmacology: An Introduction

### **Disabled candidates and/or those with additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements).

## History of changes to Unit

Version	Description of change	Date
02	Amendments to wording within the 'Guidance on learning and teaching approaches in this unit', bottom paragraph.	10/10/2011
03	Cut-off score sentence added under 'Guidance on approaches to assessment for this unit'.	03/02/2012
04	Inconsistency across units in Recommended entry. Inconsistencies in wording between Performance Criteria and Evidence Requirements. Clarification of the wording to avoid ambiguity and over/under assessment. Correction of typos and cut and paste errors in text.	10/08/2012

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