# 计算机操作系统 I

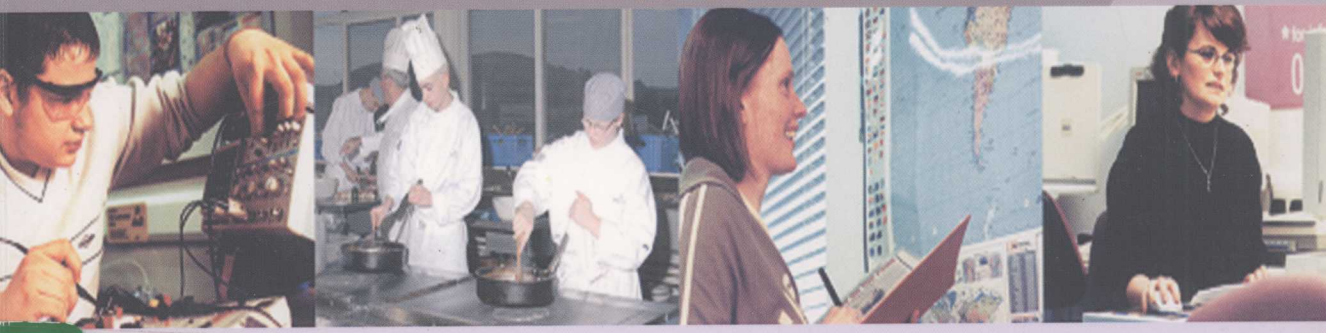
# COMPUTING: Software Development

## HIGHER NATIONAL DIPLOMA

【英】苏格兰学历管理委员会（SQA）
Scottish Qualifications Authority

## Unit Student Guide

**Computer Operating Systems I DG8P 04**



中国时代经济出版社

SCOTTISH QUALIFICATIONS AUTHORITY

# 计算机操作系统 I

# COMPUTING: Software Development

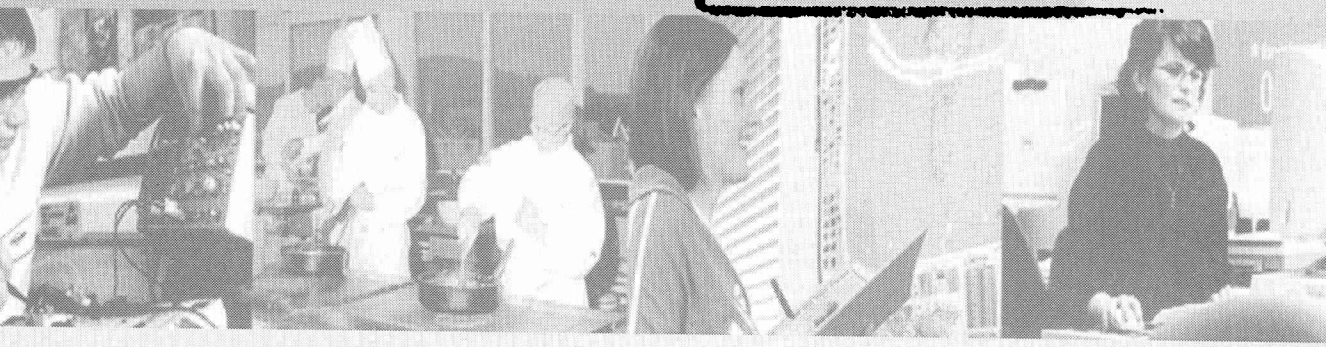
## HIGHER NATIONAL DIPLOMA

【英】苏格兰学历管理委员会（SQA）
Scottish Qualifications Authority



Unit Student Guide

Computer Operating Systems 1 (SQA)



中国时代经济出版社

SCOTTISH QUALIFICATIONS AUTHORITY

著作权合同登记 图字：01-2004-4868号

图书在版编目（CIP）数据

计算机操作系统/苏格兰学历管理委员会著．-北京：中国时代经济出版社，2004.9

ISBN 7-80169-600-X

Ⅰ.计… Ⅱ.苏… Ⅲ.操作系统-英文 Ⅳ.TP316

中国版本图书馆CIP数据核字（2004）第081915号



苏格兰学历管理委员会著

计算机操作系统 Ⅰ

Computer Operating Systems 1

| | |
|---|---|
| 出 版 者 | 中国时代经济出版社 |
| 地 址 | 北京市东城区东四十条24号<br>青蓝大厦东办公区11层 |
| 邮政编码 | 100007 |
| 电 话 | (010) 68320825 68320517 |
| 传 真 | (010) 68320634 |
| 发 行 | 各地新华书店 |
| 印 刷 | 北京新丰印刷厂 |
| 开 本 | 787×1092 1/16 |
| 版 次 | 2004年9月第1版 |
| 印 次 | 2004年9月第1次印刷 |
| 印 张 | 6 |
| 定 价 | 18.00元 |
| 书 号 | ISBN 7-80169-600-X/G·190 |

# Contents

# 1 Introduction to the Scottish Qualifications Authority

This Unit Computer Operating Systems DG8P 04 has been devised and developed by the Scottish Qualifications Authority (SQA). Here is an explanation of the SQA and its work:

The SQA is the national body in Scotland responsible for the development, accreditation, assessment, and certification of qualifications other than degrees.

Its website can be viewed on: www. sqa. org. uk

SQA's functions are to:

- devise, develop and validate qualifications, and keep them under review
- accredit qualifications
- approve education and training establishments as being suitable for entering people for these qualifications
- arrange for, assist in, and carry out, the assessment

of people taking SQA qualifications

- quality assure education and training establishments which offer SQA qualifications

- issue certificates to candidates.

In order to pass SQA units, students must complete prescribed assessments. These assessments must meet certain standards.

The Unit Specification outlines the four Outcomes that students must complete in order to achieve this unit. The Specification also details the knowledge and/or skills required to achieve the outcome or outcomes. The Evidence Requirements prescribe the type, standard and amount of evidence required for each outcome or outcomes.

# 2 Introduction to the Unit

## 2.1 What is the Purpose of this Unit?

This Unit is designed to enable candidates to gain an understanding of typical desktop computer operating systems. Candidates will learn how to use and install both operating system and applications software. Candidates will also gain experience of installing and configuring system-level software (eg device drivers) within the operating environments as well as applications software. It is intended for candidates on any computing or IT course who require knowledge and skills in operating system function and operation.

## 2.2 What are the Outcomes of this Unit?

1. Describe the structure and function of an operating system
2. Use a graphical environment to operate a computer
3. Install and configure an operating environment
4. Install and configure system and application software.

## 2.3 What do I Need to be Able to do in Order to Achieve this Unit?

You should work your way through the learner guide, attempting all activities and self-assessed questions to confirm your own understanding of each topic.

## 2.4 Approximate Study Time for This Unit

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

## 2.5 Equipment/ Material Required for this Unit

Computers must be available to the student with suitable copies of software that allow them to FDISK (partition) and FORMAT a hard disk drive, and install a fully functioning GUI Operating System including drivers. The computer must at the minimum have the following hardware: Floppy Disk Drive, Hard Disk Drive (large enough to store the proposed O/S), CD-ROM (CD-RW or DVD-RW), Motherboard, CPU (as required by the O/S minimum specification), RAM (as required by the proposed GUI O/S) and access to a printer device.

## 2.6 Symbols Used in this Unit

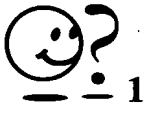
The various Learning Materials sections are designed so that you can work at your own pace, with tutor support. As you work through the Learning Materials (see Section 5), you will encounter symbols. These symbols indicate that you are expected to do a task. **These tasks are not Outcome Assessments.** They are exercises designed to consolidate learning or encourage thought, in preparation for the Outcome Assessment (see Section 3 - Assessment Information for this Unit).

**Activity**


This symbol indicates an Activity (A). Usually, activities are used to improve or consolidate your understanding of the subject in general or a particular feature of it.

The activities will not serve this purpose if you refer to the responses prior to having attempted the Activity.

Self Assessed Question




This symbol indicates a Self Assessed Question. Using a Self Assessed Question helps you check your understanding of the content that you have already covered.

Everything is provided for you to check your own responses. Answers to the Self Assessed Questions are to be found at the back of the Unit Student Guide. Where suggested responses to activities are provided in the Unit Student Guide, **students are strongly discouraged from looking at these responses before they attempt the activity.** The activities throughout the Unit Student Guide will help you to prepare yourself for the formal assessments, and to identify topic areas in which you will require clarification and additional tutor support. The activities will not serve this purpose if you look at the answers before trying the activity!

Self Assessed Questions and activities are designed to be checked by you. No tutor input is necessary at this stage unless special help is requested, although from time to time your tutor may wish to view your responses to Self Assessed Questions to see how you are progressing.

This symbol indicates Internet access is required for research or general interest.

# 3 Assessment Information for this Unit

## 3. 1 What Do I Have to Do to Achieve This Unit?

The evidence to be submitted for each outcome is as follows:

1. An answer matrix for the multiple-choice questions to the required standard
2. An observation checklist demonstrating your ability in the use of a graphical environment to operate a computer
3. An observation checklist demonstrating your ability to install and configure an operating environment
4. An observation checklist demonstrating your ability to install and configure system and application software.

# 4 Suggested Lesson Plan

The Learning Materials (see Section 5) are designed to lead you through a series of activities which will allow you to consolidate your learning and check on your own progress.

- Work through each section in order
- Ask your tutor when you find anything you do not understand
- Complete all activities and Self-Assessed questions repeat them until you are confident in each area
- Take note of all useful web sites you find when researching information on any of the subjects you will cover.

# 5 Learning Materialy

5. 1 Section 1 — Describe the Structure and Function of an Operating System

## 5. 1. 1 Introduction

You need to work through each section and activity, and on completion inform your tutor that you are ready to attempt the Outcome for that Unit.

To help you understand operating systems, first let's look at the history of some of them.

A computer consists of hardware and software, neither of which will work without the other. It is possible to build a computer and understand how all the components work together without any programming skills, or very little knowledge of software.

## 5.1.2 BIOS (Basic Input Output System)

When a computer system is first built there is no operating system software, and the only reason the user can start it is because of the firmware pre-programmed into the BIOS chip. Firmware is software that is not changeable by the user, and is usually programmed by the manufacturer during production. This is supplied to the motherboard manufacturer from a variety of specialist chip production companies, and is designed specifically for that particular Motherboard. On some older computers it is possible to re-program the BIOS chip using a flash upgrade program to first delete the old BIOS program and then rewrite the new BIOS program directly to the BIOS chip. This is now in many cases being done online directly from the Motherboard manufacture's web site. There is a risk involved when upgrading the BIOS chip and it should not be done without understanding what is involved. It is possible that if anything goes wrong during the upgrade process, you may need to purchase a new Motherboard.

As we have read, the BIOS chip is pre-programmed; but it also has another part known as the CMOS. This is a small program that the system builder or user can access during the start-up of the computer and change settings to match the hardware components installed within that particular system. CMOS stands for Complimentary Metal Oxide Semiconductor, which is what the memory chip was made from, and the name