IT in Business: Advanced Databases

HIGHER NATIONAL DIPLOMA

商务信息技术：高级数据库

【英】苏格兰学历管理委员会（SQA）

Unit Student Guide

BUSINESS

DE1W 35



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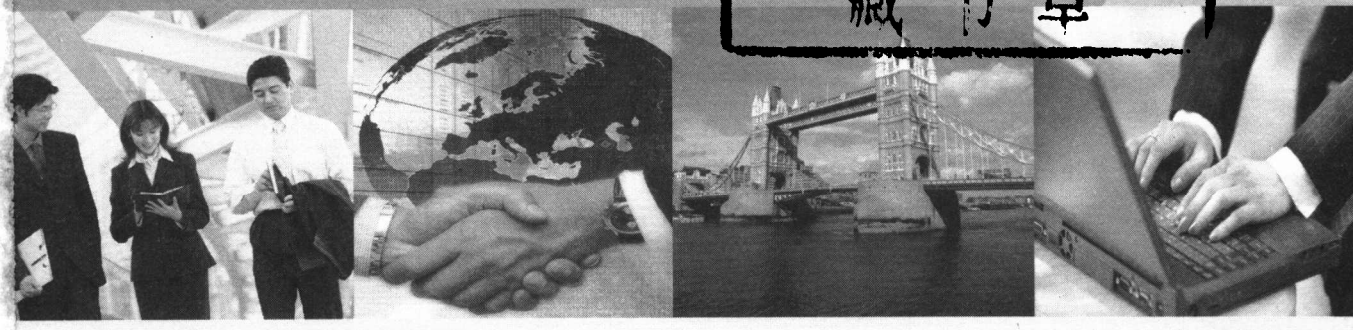
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中国时代经济出版社

SCOTTISH QUALIFICATIONS AUTHORITY

著作权合同登记 图字：01-2005-5718号

图书在版编目（CIP）数据

商务信息技术：高级数据库/苏格兰学历管理委员会著. -北京：中国时代经济出版社，2006.1

ISBN 7-80169-902-5

Ⅰ.商… Ⅱ.苏… Ⅲ.数据库系统-教材-英文 Ⅳ.TP311.13

中国版本图书馆CIP数据核字（2005）第131625号

"First published by CMEPH"

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出 版 者 中国时代经济出版社

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发 行 各地新华书店

印 刷 北京市优美印刷有限责任公司

开 本 787×1092 1/16

版 次 2006年1月第1版

印 次 2006年1月第1次印刷

印 张 14

定 价 42.00元

书 号 ISBN 7-80169-902-5/G·357

商务信息技术：高级数据库

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苏格兰学历管理委员会著

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1 Introduction to the Scottish Qualifications Authority

This Unit **DE1W 35 IT in Business: Advanced Databases** 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

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- 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 three 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.

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2 Introduction to the Unit

2.1 What is the Purpose of this Unit?

This Unit is designed to develop an understanding of complex database design. The Unit is primarily for candidates moving into managerial positions for which the storage and analysis of information is becoming increasingly important.

2.2 What are the Outcomes of this Unit?

There are 3 Outcomes:

1. Analyse and evaluate an existing database and apply advanced design principles to improve performance of the database

2. Import data from an external source and design and use complex forms to aid the inputting of new data

3. Create and use complex queries to manipulate data and to aid decision making.

Further details can be found in Appendix 1 — Unit Specifications.

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

You will be required to demonstrate your knowledge and/or skills by the production of a response to the assessment providing evidence that you have met all the performance criteria for the unit, as identified in the Unit Specification.

2.4 Approximate Study Time for This Unit

The notional time allowed for the Unit is 40 hours. However, some students may need less time, whereas others may take longer.

2.5 Equipment/ Material Required for this Unit

You should have access to a PC and Microsoft Office 2000

You should be issued with:

- work disk or network area with appropriate login
- relevant files listed for each Section.

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

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symbols indicate that you are expected to complete 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

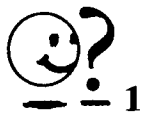


This symbol indicates an Activity (A). Usually, Activities are used to improve or consolidate your understanding of the subject in general or a particular feature of it.

In this Unit, you are asked to undertake practical Activities using the special and advanced features of a database application that will help your understanding of the application.

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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. The Self-Assessed Questions in this guide take the form of practical exercises and multiple option questions.

Everything is provided for you to check your own responses. Answers to the Self-Assessed Questions are at the back of the Unit Student Guide. Where suggested responses to Self-Assessed Questions are provided in the Unit Student Guide, **students are strongly discouraged from looking at these responses before they attempt the questions.** The Self-Assessed Questions 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 Self-Assessed Questions will not serve this purpose if you look at the answers before trying them!

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.

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3 Assessment Information for this Unit

3.1 What Do I Have to Do to Achieve This Unit?

There are three Outcomes to this Unit. In order to achieve this Unit, students must produce evidence in their assessments that demonstrates they have met all the performance criteria for the Unit, as identified in the Unit Specification.

Students should submit a disk with their completed work so that the tutor can check that the tasks have been carried out correctly.

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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.

The time you take for each section will depend upon your existing knowledge.

Allow at least six hours for assessment.

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5 Learning Material

The learning material is split into six sections

All the application packages used are part of the Microsoft Office 2000 suite, with the exception of Acrobat Reader which is used in Section 5.3.

5.1 Section 1 — Analysing Databases

The aim of this section is to enable you to:

- Analyse flat file databases and identify problems inherent with this type of file
- Determine how a relational database can eliminate the identified problems
- Design a database using tools to enhance data integrity and the security of the database.

For this section you will use the following files:

Training Records.xls

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What is a Database?

A simple definition of a database is:

A collection of data or information structured in a way that specific information can be easily located and retrieved.

In everyday life we make use of databases, for example a telephone directory. A collection of names and addresses is a database.

There are two main types of database, a flat file database and a relational database.

Flat File Database

A flat file database is normally where a collection of data is held in one single file or table, as in a spreadsheet list. A single table can quickly run into problems if you are trying to present complicated data.

Imagine you ran a small café and you wanted to record deliveries from your suppliers. All we need to know is the supplier, the product and the delivery date.

Look at the example below showing all the information in one table.

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