Information Systems

Database Systems

[INTERMEDIATE 2]

Relational Database Systems

[HIGHER]

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Acknowledgement
Learning and Teaching Scotland gratefully acknowledge this contribution to the National Qualifications support programme for Information Systems.

First published 2005

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ISBN 1 84599 056 3

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Aim

This unit is designed to develop knowledge and skills in the analysis, design and implementation of relational database systems, and to meet the requirements of the unit specifications for Database Systems at Intermediate 2 and Relational Database Systems at Higher levels.

Status of this teaching and learning pack

These materials are for guidance only. The mandatory content of this unit is detailed in the unit specifications for the Database Systems/Relational Database Systems units in the relevant Arrangements documents.

Target audience

This is a bi-level teaching pack. It is intended for use with candidates working at either Intermediate 2 or Higher levels.

Intermediate 2

While entry is at the discretion of the centre, students would normally be expected to have attained one of the following (or equivalent experience):

• Computing Studies course at Intermediate 1 level
• Standard Grade in Computing Studies (Grade 3 or 4).

Higher

While entry is at the discretion of the centre, students would normally be expected to have attained one of the following (or equivalent experience):

• Information Systems course at Intermediate 2 level
• Standard Grade in Computing Studies (Grade 1 or 2).
NOTES FOR STAFF

Pre-knowledge and skills

It is expected that students will be capable of using online help facilities, as well as the supporting software documentation and manuals.

Progression

The completion of this unit at Intermediate 2 level will enable students to embark on the Relational Database Systems unit at Higher level. The completion of this unit at Higher level will enable students to develop the concept of intelligent database systems, suitable for project work at Advanced Higher level.

Learning and teaching approaches

The materials in this pack are not intended to be used without teacher or lecturer input. For the study of database systems, it will be necessary for the teacher or lecturer to provide instruction and guidance throughout the unit.

For the practical study of database systems at Intermediate 2 level, a suitable database management system will be required, with supporting documentation in its use.

For the practical study of database systems at Higher level, a suitable relational database management system will be required, with supporting documentation in its use.

Pathway through the unit

Section 2 of this pack contains notes for students.

Sections 3 and 4 contain teaching and learning materials for Outcome 1. These can be issued to students, either together with, or separately from, the notes for students.

Section 3 covers Outcome 1 of the Intermediate 2 Database Systems unit. It is recommended that this is covered prior to practical work in database systems.

Section 4 covers Outcome 1 of the Higher Relational Database Systems unit. Chapter 1 of this section reviews the material covered at Intermediate 2. Candidates undertaking the Higher without prior attainment of the unit at Intermediate 2 level, may find it useful to have
access to the Section 3 notes. It is recommended that Chapters 1–4 of Section 4 are covered prior to undertaking practical work in database systems.

Chapters 5–7 of Section 4 cover advanced implementation issues for Microsoft Access, Filemaker Pro and MySQL; only the section relevant to the software in use is necessary.

Materials to cover Outcome 2 of this unit for particular database management systems are available separately.

**Hardware and software requirements**

Centres are expected to have a database management system (Intermediate 2) or relational database management system (Higher) with an appropriate hardware configuration. Although these materials include screenshots from Microsoft Access, Filemaker Pro and MySQL, these are for illustrative purposes only. However, it should be borne in mind that these are the three applications covered in advanced implementation in Section 4 of the Higher materials.

**PowerPoint presentation**

A PowerPoint presentation linked to this pack may be downloaded from the Information Systems subject pages in the e-library at [www.ltsScotland.org.uk/nq](http://www.ltsScotland.org.uk/nq)

**General notes**

The database software used in the screenshots was Microsoft® Access 2002 (XP), Filemaker® Pro 6 and phpMyAdmin® 2.5.4.

**References**

During the writing of this material, reference was made to the following texts:


Date, C, *An Introduction to Database Systems*, Addison Wesley, 2001

These texts provide appropriate background material for teachers and lecturers, but are not recommended as student texts.
Notes for students

Introduction

This unit is designed to develop your knowledge and skills in the use and construction of database systems at Intermediate 2 and Higher levels. Before starting this unit, you should ensure you are comfortable with using online help facilities, as well as software documentation and manuals.

Information about this unit

This unit may be taken in combination with other units as part of the Information Systems courses at Intermediate 2 and Higher levels, or as a stand-alone unit. It is also possible for this unit to contribute to a Scottish Group Award.

The unit has 2 outcomes.

1. Demonstrate knowledge and understanding of the principles, features and techniques of (relational) database systems.

2. Demonstrate practical skills by applying knowledge and understanding of the principles, techniques and applications of (relational) database systems using contemporary hardware and software.

Sections 3 and 4 cover the content of Outcome 1. This material discusses the principles, techniques and applications of database systems, including the processes involved in creating and evaluating a working (relational) database system.

There are additional materials available to cover Outcome 2 for the particular database management system you will be using.

By completing this unit, you will increase your knowledge of database systems and their characteristics. You will also increase your practical skills in the use of a database management system.
What assessments will I have to take?

There will be two unit assessments:

• a 45-minute multiple-choice assessment to test your knowledge and understanding of the unit’s contents
• assessed evidence of your practical ability in the analysis, design, implementation, use and evaluation of a database system.