Subject Knowledge

Aims
This module teaches how to design, implement, maintain and query relational databases. They should also be able to create simple web pages with database connectivity.

Learning Outcomes
Students should be able to demonstrate an understanding of the basic techniques involved in data organisation, storage and retrieval based on the relational database model. They should be able to implement, maintain, and query simple databases using database management systems software MySQL. The students should be able to create static web pages using XHTML and dynamic web pages with content obtained from a database. They will learn the need for sessions for interactive web applications and how to program sessions with PHP.

Methods
Lectures, surgeries, laboratory practical sessions together with course notes (available on the Web and in the printed form), recommended textbooks and software manuals, class and laboratory worksheets, printed solutions, and Web support.

Assessment
Marked coursework, laboratory assessments, traditional written problem-based examination.

Skills

Aims
To teach students scientific writing, problem solving and information handling skills.

Learning Outcomes
Students will be able to: write short summaries of technical material as well as short reports describing database and web page design process; solve abstract and concrete problems (both routine seen, and simple unseen); and locate, access, organise and evaluate, and build upon existing information regarding database solutions.

Methods
Class and laboratory sessions, course notes, software manuals, class and laboratory worksheets, printed solutions, and web support.

Assessment
Marked coursework, laboratory assessments, traditional written problem-based examination.

Explanation of Prerequisites
No specific knowledge is required.

Course Description

Detailed Syllabus
HTML (static webpages): Internet Technologies; The Internet Protocol Stack; HTML, XHTML; HTML Forms.

MySQL: revision of sets, relations and classical logic, querying a database, views; database implementation; database normalization (1NF, 2NF and 3NF); Data Definition Language (CREATE, ALTER, DROP), Data Manipulation Language (SELECT, UPDATE, DELETE), Data Control Language (GRANT, REVOKE).

PHP (dynamic pages): php scripting, obtaining content from databases, sessions and cookies.

Reading List
Resources

Course notes, text books in library, study guide, worksheets, handouts, past examination papers, module web pages, lecture rooms with fixed computer, data projector and OHPs, laboratories with PCs and demonstrators, Microsoft Access and MySQL software tools, electronic coursework submission facility, surgeries with assistants, Internet.

Module Evaluation

Course questionnaires, course review.