***Department of* *COMPUTING***

**MODULE HANDBOOK**

CPT103:

Introduction to Database Systems

## Jianjun Chen

## Semester 1 and 2

**2023-2024**

**SECTION A: Basic Information**

* **Brief Introduction to the Module**

Database systems is an essential part of the education of computer science and

information systems students, and this module is designed to provide you with a

strong theoretical background which is presented early and used throughout the

course. This module also gives you the practical skills required in the design and

development of actual working databases.

* **Key Module Information**

Module name: *Introduction to Database Systems*

Module code: *CPT103*

Credit value: *Five*

Semester in which the module is taught: *1 & 2*

Pre-requisites needed for the module: *None*

Programmes on which the module is shared:

BSc Bioinformatics

BEng Computer Science and Technology

BEng Digital Media Technology

BSc Information and Computing Science

BSc Information Management and Information Systems

* **Delivery Schedule**

Lecture room: Please check the timetable.

Lecture time: Please check the timetable

* **Module Leader and Contact Details**

Name: *Jianjun Chen*

Email address: *Jianjun.Chen@xjtlu.edu.cn*

Office telephone number: *0512-81889137*

Room number and office hours: *Check module page*

Preferred means of contact: *Email, office hours.*

**SECTION B: What you can expect from the module**

* **Educational Aims of the Module**

To establish an understanding of Information Systems, encourage the appropriate and efficient design and usage of Information Systems, to provide insight into the design process and social implications of Information Systems, to enable the use of Information Systems in a programming environment.

* **Learning Outcomes**

1. to have a basic understanding of the design of databases;
2. to have a fundamental grounding in the operation and usage of database management systems including "hands-on" experience of a basic database management system;
3. to have in-depth knowledge of the database language, SQL;
4. to understand the processes and legal implications of creating and maintaining information systems

* **Assessment Details**

Coursework/Quiz

Contributes 15% to the overall assessment.

Final Exam

Contributes 85% to the overall assessment.

Resit Exam

Released during the summer break.

* **Methods of Learning and Teaching**

Students will be expected to attend 2 hours of formal lectures as well as to participate in 1 hours of practices in a computer lab in a typical week. Lectures will introduce students to the academic content and practical skills which are the subject of the module, while computer practices will allow students to practice those skills. Case studies are presented illustrating the effective use and design of databases. In addition, students will be expected to devote seven hours of unsupervised time to solving continuous assessment tasks and private study. Private study will provide time for reflection and consideration of lecture material and background reading. Continuous assessment will be used to test to what extent practical skills have been learned, in particular, assessment tasks will be solved individually and each solution comprises the resolution, using sound software engineering techniques, of the given problems expressed in terms of a requirements statement. A written examination at the end of the module will assess the academic achievement of students.

* **Syllabus & Teaching Plan**

|  |  |  |
| --- | --- | --- |
| Week Number | Lecture | Topic |
| Week 0 | --------- | --------- |
| Week 1 | Lecture | Introduction to DB |
| Week 2 | Lecture | SQL: Data definition 1 |
| Week 3 | Lecture | SQL: Data definition 2 |
| Week 4 | Lecture | SQL: Queries (Part 1) |
| Week 5 | Lecture | SQL: Queries (Part 2) |
| Week 6 | Lecture | SQL: Queries (Part 3) |
| Week 7 | Lecture | Entity-relationship modeling |
| Week 8 | --------- | --------- |
| Week 9 | Lecture | Normalisation 1 |
| Week 10 | Lecture | Normalisation 2 |
| Week 11 | Lecture | Transactions |
| Week 12 | Tutorial | Designing Database |
| Week 13 | Revision | Revision |

Note: liable to alteration, if necessary.

* **Lab Schedule**

Check your timetable for lab information.

* **Reading Materials**

Textbook:

Database Systems: a practical approach to design, implementation, and management - Connolly, Thomas M., Begg, Carolyn E.

Additional Readings:

Modern database management - Jeffrey A. Hoffer, V. Ramesh, Heikki Topi

##### SECTION C: Additional Information

* **Student Feedback**

The University is keen to elicit student feedback to make improvements for each module in every session. It is the University policy that the preferred way of achieving this is by means of an Online Module Evaluation Questionnaire Survey. Students will be invited to complete the questionnaire survey for this module at the end of the semester.

**You are strongly advised to read the policies mentioned below very carefully, which will help you better perform in your academic studies. All the policies and regulations related to your academic study can be found in ‘Student Academic Services’ section under the heading “Policies and Regulations*”* on** [**E-bridge**](https://ebridge.xjtlu.edu.cn/urd/sits.urd/run/siw_lgn)**.**

* **Plagiarism, Cheating, and Fabrication of Data.**

Offences of this type can result in attendance at a university-level committee and penalties being imposed. You need to be familiar with the rules. Please see the “Academic Integrity Policy” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

#### Rules of submission for assessed coursework

The University has detailed rules and procedures governing the submission of assessed coursework. You need to be familiar with them. Details can be found in the “Code of Practice for Assessment” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

#### Late Submission of Assessed Coursework

The University attaches penalties to the late submission of assessed coursework. You need to be familiar with the University’s rules. Details can be found in the “Code of Practice for Assessment” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

#### Mitigating Circumstances

The University is able to take into account mitigating circumstances, such as illness or personal circumstances which may have adversely affected student performance on a module. It is the student’s responsibility to keep their Academic Advisor, Programme Director, or Head of Department informed of illness and other factors affecting their progress during the year and especially during the examination period. Students who believe that their performance on an examination or assessed coursework may have been impaired by illness, or other exceptional circumstances should follow the procedures set out in the “Mitigating Circumstances Policy”, which can be found on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.