Macao Polytechnic University

Faculty of Business

Bachelor of E-Commerce

Module Outline

Academic Year 2022 / 2023 Semester 1

Learning Module	Database Management		Class Code		COMP3140-311
Pre-requisite(s)	None				
Medium of Instruction	English			Credit	3
Lecture Hours	30.5 hrs	Lab/Practice Hours	14.5 hrs	Total Hours	45 hrs
Instructor	Billy Yu		E-mail		billyyu@mpu.edu.mo
Office	M5-34 Meng Tak Building, MPU		Telephone		8599-3312

Description:

This module covers user-focused database and data management systems; MIS and DSS concepts, techniques, applications, and development using packaged database management and file manager software. Primary emphasis is on the ability of the computer user to define information needs in E-Business/E-Commerce context and then select and use a file manager or database management system appropriate to specified requirements. A commercial software product such as Oracle that includes E-Business functions will be used as students' labs.

Learning Outcomes:

After completing the module, students will be able to:

1. differentiate the kinds of modern databases;
2. explain the development process of database systems;
3. design relational databases using entity relationship models;
4. apply knowledge to the normalization of a database;
5. apply business rules to table design.

Alignment of Program and Module Intended Learning Outcomes

PILOs	MILOs
1. Demonstrate an understanding of the business processes and operations and the skillful realization of information technologies required to practice electronic commerce;	2 & 5
2. Apply knowledge in business, mathematics, programming, computing, web development, and database to address complex problems in the context of electronic commerce;	3 & 4
3. Analyze critically the effect of web technology use on organizational performance and develop electronic commerce strategies that fit organizational objectives;	
4. Select and apply tools and technologies to effectively implement electronic commerce systems in business intelligence, enterprise resources planning, supply chain management, and customer relationship management;	1
5. Develop relationships, motivate others, manage conflicts, lead changes, and work across differences in multi-disciplinary electronic commerce projects;	
6. Communicate and work effectively using written and spoken word, non-verbal language, and electronic tools with fellow professionals and different stakeholders in the electronic commerce industry;	
7. Demonstrate a global electronic commerce perspective as evidenced by an understanding of foreign languages and the role of Macau as an interface between the East and the West;	
8. Cope with and manage contemporary advancement related to electronic commerce development and demonstrate lifelong learning attitudes and abilities;	
9. Conduct research and devise innovative electronic commerce models to exploit business opportunities; and	
10. Reflect on professional responsibilities and keep up with the latest electronic commerce issues on legal, environmental, ethical, and societal considerations to benefit society comprehensively.	

Content:

1. Overview and project briefing (3 class hours)

2. The Database Approach (3 hours)
   2.1 Introducing the database
   2.2 Eco-system related to database

3. Data Models (4 hours)
   3.1 Data model basic building blocks
   3.2 Introduction to models

4. Relational Database Model (4 hours)
   4.1 Introduction to its basic components
   4.2 The data dictionary
   4.3 Relationships within the relational database

5. Midterm (1.5 hours)

6. Entity Relationship (ER) Modeling (7.5 hours Practice)
   6.1 Entity relationship components
   6.2 Developing ER Diagram

7. Normalization (4 hours Practice)

8. Project Demo (3 hours)
   8.1 Audit and corrections

9. Introduction to SQL (3 hours Practice)

10. Database design (3 hours)
    10.1 SDLC & DBLC

11. Introduction to Big Data Analytics (3 hours)

12. Project Presentation (3 hours)

13. Final Exam (3 hours)

Teaching Method:

Students are required to prepare for and actively participate in lectures. Other than passive listening, they are expected to practice, take notes and ask questions in class. The projects expect students to be creative. Students should apply the module material as well as knowledge from other subjects for their group project. For the examination preparation, they are encouraged to study in group discussions with all sorts of reference materials, including videos.

Attendance:

Attendance requirements are governed by the "Academic Regulations Governing Bachelor's Degree Programmes of Macao Polytechnic University". Students who have less than the required attendance for the enrolled subject are not eligible to attend the final or re-sit examinations and will be given an "F" as their final grade.

Assessment:

This course is graded on a 100 point scale, with 100 being the highest possible score and 50 the pass score.

	Item	Description	Percentage
1.	Project	Group Project of this subject	30 %
2.	Midterm	Midterm Examination	20 %
2.	Participation	Exercises, server activities, Q&A, etc.	10 %
3.	Examination	Final Examination	40 %
		Total Percentage:	100 %

Plagiarism Policy:

It is student's responsibility to ensure that his/her assignment has been checked by *Turnitin* software, and the similarity score given by *Turnitin* software cannot be higher than 30%. However, a special case can be determined by the instructor.

Academic Integrity:

Academic honesty is the basis for academic achievement. Cheating or dishonest act in assignments, projects, mid-term or final examination is a serious offense: a maximum grade deduction of 100% will be exercised.

Teaching Material(s):

Course textbook

1. Carlos Coronel & Steven Morris (2019) Database Systems: Design, Implementation, & Management (13th Ed.), Cengage, ISBN 978-1337627900.

References

2. Ramez Elmasri & Shamkant B. Navathe (2016) *Fundamentals of Database Systems*, Pearson, ISBN 978-0-13-397077-7.

Note:

1. The above class schedule is tentative and subject to change depending on the progress of the students.
2. Students are responsible for ALL materials covered in class AND in the textbook.