



University of Embu
Department of Computing and Information Technology (CIT)

Course code: sit 226

Course Title: Database management systems

Semester: second

Academic year: 2023/2024

Course Purpose

This course is designed to familiarize the students with the concepts and structures necessary to design and implement a database. *Various modern data models, data security and integrity, and concurrency are discussed in the course.*

Expected Learning Outcomes

At the end of the course, the learner should be able to:

- i. Write Structured Query Language (SQL) statements using given DBMS
- ii. Produce reports with SQL*Plus
- iii. Create and manage tables which include constraints
- iv. Create Views and other database objects

Course Outline (Topics and subtopics)

Week/ Date	Lecture Topic	Remarks
1: xx	Introduction to SQL <ul style="list-style-type: none">• Data types• Language types	
2: xx	Data Definition Language (DDL) Creating tables SQL Constraints Insert statements	
3: xx	Data manipulation language Select statement	
4: xx	SQL JOINS	

5: xx	CAT 1	
6: xx	Sql scalar aggregate functions	
7: xx	Sql scalar functions	
8: xx	Transactions and Concurrency Management	
9: xx	Database Security	
10: xx	CAT 2	
11: xx	Stored procedures	
12: xx	Triggers	
13: xx	Examination	

Mode of Delivery

Use of lectures

Use of practicals

Case Studies

Instructional Materials and/or Equipment

Projectors

White boards

Marker pens

Computers

Assessment

CATs(30%)

- Practical reports
- Assignments
- Sit in CATs
- Take away cats

End of semester examination: (70 %)

Core Reading Materials for the Course

- i. Elmasri, R., & Navathe, S. B. (2017). *Fundamentals of database systems*. Harlow : Pearson Education Limited
- ii. Kroenke, D. M., Auer, D. J., Vandenberg, S. L., & Yoder, R. C. (2017). *Database concepts*. NY : Pearson
- iii. Hoffer, J. A., Ramesh, V., & Topi, H. (2020). *Modern database management* (Thirteenth edition, Global). Pearson Education Limited.
- iv. Coronel, C., & Morris, S. (2019). *Database systems : design, implementation, and management* (13th e): Cengage Learning.

Recommended Reference Materials

- i. Zygiaris, S. (2018). Database management systems : a business-oriented approach using oracle, mysql and ms access (First Ed.): Emerald Publishing Limited.
- ii. Blum, R. (2018). PHP, MySQL, & Javascript all-in-one for dummies: John Wiley & Sons.
- iii. Lemahieu, W., Broucke, S. vanden, & Baesens, B. (2018). Principles of database management : The Practical guide to storing, managing and analyzing big and small data (First Ed.). Cambridge University Press.
- iv. Coronel, C., Morris, S., & Rob, P. (2013). Database principles: fundamentals of design, implementation, and management. Australia: Course Technology/Cengage Learning.

Journals

- i. Journal of Database Management ISSN: 15338010, 10638016
- ii. Information and Software Technology ISSN: 09505849
- iii. IFIP Advances in Information and Communication Technology ISSN: 18684238, 1868422X

Name of Lecturer:**Sign:****Date:**