Lincoln University

CS 237
Database
COURSE SYLLABUS
Fall 2023

Instructor:	Dr. Walter Kruz, DBA
Lecture Schedule:	Thursday, 12:30 PM – 3:15 PM
Credits:	3 units / 45 lecture hours
Level:	Advanced (A)
Office Hours:	Thursday, 11:45 AM – 12:30 PM, by appointment
	e-mail: wrkruz@lincolnuca.edu
Main Textbook:	Database Management Systems by G. Post, 3rd Edition, McGraw-Hill, ISBN: 0-07-291919-1
Prerequisite:	*BA 160*
Last Revision:	Jan 2, 2024

CATALOG DESCRIPTION

A survey of the major types of database systems and subsequent issues in development and implementation. Discussions focus on relational and object-oriented models, normalization theory, query languages, design theory, and issues in concurrent and distributed database systems. (3 units) *Prerequisite: BA 160*

EDUCATIONAL OBJECTIVES

By taking the course, students will learn about the database environment, database management systems and methods, database context management, and the database development process. Students will learn methods of database analysis, data modeling, logical and physical database design and implementation, and the use of SQL. The M/S Access DBMS may be used.

COURSE LEARNING OUTCOMES[1]

	Course Learning Outcome	Program LO	Institutional LO	Assessment activities
1	Demonstrate an ability to analyze organizational data and develop its conceptual data model ERD (Entity Relation Diagram).	PLO 1	ILO 1a, ILO 2a	Homework, participation in the in-class discussions; case studies; quizzes; midterm/final exams
2	Demonstrate ability to map conceptual data model into logical data model.	PLO 1	ILO 1a, ILO 2a, ILO 4a	Participation in the in-class discussions; case studies; quizzes
3	Demonstrate ability to map logical data model to physical model using SQL DDL (Data Definition Language	PLO 3	ILO 2a, ILO 7a	Course project presentation, course project report; case studies; quizzes
4	Demonstrate ability to manipulate data using SQL DML (Data Manipulation Language)	PLO 5	ILO 4a, ILO 5a	Course project presentation; case studies

INSTRUCTIONAL METHODS

This class offers a highly interactive learning environment. All students will expect to participate in class discussions, research findings, and class exercises. Short oral presentations may be assigned. Assignments may consist of textbook cases and research questions. Assignments and projects require students to actively use resources of the library and the Computer Lab. Detailed guide to business *resources of the library* as well as the description of Lincoln University approach to *information literacy* are available at the LU Library website (lincolnuca.libguides.com).

CLASS ATTENDANCE

Attendance is a school requirement.

EXAMS

Typically, the class exams will consist of several exams of equal weight as well as homework and quizzes throughout the sessions. Exams may include questions from class discussions. All exams are individual deliverables. These activities enable the student to accumulate points which will be used to calculate grade performance. Exams are designed to demonstrate a student's mastery of concepts being discussed and consist mostly of short answers and calculations related to the material being discussed. The exam format is closed book with no electronic devices allowed. Failure to follow exam rules will earn 0 points or "F" grade for that exam.

COURSE PROJECT

The project, if assigned, will consist of research describing the development of a database management system for a given business model. A written report, following the APA standard, and

[1] Detailed description of learning outcomes and information about the assessment procedure are available at the Learning Outcomes Assessment section of LU website.

including a Turnitin score, will summarize this system development. A project outline is provided in class as guidance to complete the report.

COURSE GRADE DISTRIBUTION

Weights	
Attendance	10%
Homework	10%
Midterm Exams (20% each) (3 exams)	60%
Project	20%
Total	100%

All deliverables are due on the date assigned. Late assignments are not accepted. Make up exams are only possible by presenting a documented medical emergency.

The points needed for securing a given course grade are shown in the table posted below:

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	94-100	90-93	87-89	83-86	80-82	77-79	73-76	70-72	67-69	60-66	0-59

SCHEDULE OF TESTING

Session	Test
5	Exam 1
10	Exam 2
15	Exam 3

PROPOSED CLASS SCHEDULE

Session	Activity	Assignment
Session 1	Chapter 1. Intro to Databases, Class Project planning. Video review.	Lecture, class exercises,
Session 2	Chapter 1. Database environment and Development process	Ch. 1 exercises as assigned
Session 3	Chapter 2 Modeling Data in the Organization – P1	Ch. 2 exercises
Session 4	Chapter 2 Modeling Data in the Organization – P2	Ch. 2 exercises
Session 5	Exam 1	
Session 6	Logical Database Design and the Relational Model – P1	Ch. 4 exercises
Session 7	Logical Database Design and the Relational Model – P2	Ch. 4 exercises
Session 8	Introduction to SQL, P1 DDL	Ch. 5 exercises
Session 9	Introduction to SQL, P2 DML	Ch. 5 exercises
Session 10	Exam 2	Chapter 4 & 6
Session 11	Introduction to SQL, P3 SELECT	Ch. 6 exercises
Session 12	Introduction to SQL, P4 SELECT	Ch. 6 exercises
Session 13	Advanced SQL (JOINS)	Ch. 7 exercises
Session 14	Review	Submit Project
Session 15	Exam #3	

Last Revision: 1/4/24