Lincoln University

CS 137 – Database

COURSE SYLLABUS

Spring 2018

Level: Developed (D)

Course Title:	Database	**Instructor:**	Prof. Miron Yoffe, PhD
Course No:	CS-137	**Phone:**	617-928-1966
Units:	3 units (45 lecture hours)	**E-mail:**	myoffe@lincolnuca.edu
Class Hours:	Saturday, 9:00am – 11:45am	**Office Hours:**	Saturdays from 3:30 to 4:30 by arrangement
Semester:	Spring 2018	**Office Number:**	510-628-8010

REQUIRED MATERIALS

Textbook: ***Modern Database Management***,
Jeffrey A. Hoffer, and V. Ramesh Heikki Topi, 12th Edition, 2016.
ISBN 13: 978-0-13-354461-9 | ISBN 10: 0-13-354461-3

Companion website for the textbook
Video Lectures
Teradata University Database
Diagramming Software Lucidchart

The study material in the textbook will be supplemented by content posted in the class web site (CANVAS).

COURSE DESCRIPTION (from catalog)

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: CS 50

Course Learnings Outcomes

Upon the completion of the course, students will have an:

	Course Learnings Outcome	Program Learning Outcomes	Assessment Activities
1	Ability to analyze organizational data and develop its conceptual data model in form of ERD (Entity Relationship Diagram)	PLO 1-4	Class discussions, in-class and home assignments
2	Ability to map conceptual data model into logical data model	PLO 1-4	Class discussions, in-class and home assignments
3	Ability to map logical data model to physical data model using SQL DDL (Data Definition Language)	PLO 1-4	Class discussions, in-class and home assignments
4	Ability to populate, modify and delete data from database using SQL DML (Data Manipulation Language)	PLO 1-4	Class discussions, in-class and home assignments
5	Ability to implement data queries using different forms of SELECT SQL statement	PLO 1-4	Class discussions, in-class and home assignments
6	Implement sample databases	PLO 1-4	Student works in teams on their approved projects

EDUCATIONAL OBJECTIVES

To introduce students to database management systems and methods, database context management, the database environment, 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.

INSTRUCTIONAL METHODS

The course will be delivered through lectures, lab exercises, discussions, homework assignments, quizzes, and projects. Each class usually consists of a lecture session followed by a lab exercise session. All class exercises require Wi-Fi enabled laptops with Internet Explorer or other Web Browsers.

For designing entity relationship diagrams (ERD) we will be using Diagramming Software Lucidchart. For SQL exercises and projects we will be using Teradata University Database website.

Every student must register to the Canvas based Course Website. We are using it for providing course materials, monitoring attendance and participation, homework assignments, quizzes, projects, controlling submission time and grading. The homework files are submitted *only* through the Course Website. All homework assignments are due by 1 AM next class. If you are late, you still may use an automatic extension of 8 hours and submit your assignment by 9 AM next class. The

Course Website has a built in time cut off function and would not allow submission past the deadline or the deadline extension. No further extension would be provided. Hence, any homework passed the due date extension deadline would not be accepted for grading.

Students are expected to utilize their personal laptop computers, the computer lab, and resources available in the school library.

This is a direct classroom instruction course.

TIME SPENT ON OUT-OF-CLASS WORK

The estimated time which a student should spend on out-of-class work/assignments in this course is 6 hours every week (about 90 hours for the course).

COURSE PROJECT

Every student must complete and submit an assigned course project no later than two weeks before the end of the semester.

OTHER REQUIREMENTS

All students are required to attend the class. Continuous assessment is emphasized. Written or oral quizzes will be given every week. Students must complete all assignments and take all quizzes, mid-term exam and final exam ON THE DATES DUE. Talking in class, using cell phones, coming late, leaving the room at times other than at break time is not allowed. Plagiarism/cheating will result in the grade "F" and a report to the administration.

TESTING

Your grade will be assigned based on your participation in class, performance on homework assignments, quizzes, project, and exams, as follows:

Activity	%	Notes
Classroom activities	5%	Weekly
Homework Assignments	10%	Weekly
Midterm Exam 1	20%	As Scheduled
Midterm Exam 2	25%	As Scheduled
Final Exam	30%	As Scheduled
Database Project	10%	One term project, to be completed in stages. The project will involve designing and implementing a database system for an organization.
Total	100%	

There will be no make-up for a missed quiz or participation in a classroom activity. No make-up exams will be given unless you have the instructor's prior approval obtained in person before the exam date, except for an extreme emergency. Late assignments will get reduced credit. ***Students***

will not be allowed to use cellular phones during tests.

EXAMINATION POLICY

The exams are open books exams. No breaks are allowed during the midterm and of the final exams. (I will make alternative testing opportunities where the need for break is medically required and professionally supported by a letter from a medical doctor).

No exchange of pencils, pens, erasers, and any other material between students is allowed. No electronic instrument capable of copying material in any form is allowed in the exam. In particular, cell phones, tape recorders, cameras, etc. must be closed and stored inside a closed bag. Students violating these requirements should expect an F grade, as well as further disciplinary hearing.

GRADING

The final grade will be computed by combining the score of each item in the above table. The conversion from a score grade (S) to a letter grade (L), which is what will be reported to the university, will follow the rules listed below:

100-85	84-80	79-75	74-70	69-65	64-61	60-55	54-50	49-45	44-42	41-0
A	A-	B+	B	B-	C+	C	C-	D+	D	F

If all grades for the midterm and final exams are “F” the term grade for the course is “F” regardless of the grades for the classroom activities, homework assignments and project

SCHEDULE OF TOPICS

Please read every chapter of the textbook before you come to class

Session	Date	Topics	Chapters
1	01/20/18	The Introduction to Databases	1, Video
2	01/27/18	The Database Environment and Development Process	1
3	02/03/18	Modeling Data in the Organization, P1	2
4	02/10/18	Modeling Data in the Organization, P2	2
5	02/17/18	**Midterm Exam 1**	1-2
6	02/24/18	Logical Database Design and the Relational Model, P1	4
7	03/03/18	Logical Database Design and the Relational Model, P2	4
8	03/10/18	Introduction to SQL, P1 (DDL)	6
9	03/17/18	Spring Recess	
	03/24/18	Introduction to SQL, P2 (DML but SELECT)	6
10	03/31/18	**Midterm Exam 2**	4, 6
11	04/07/18	Introduction to SQL, P3 (SELECT)	6
12	04/14/18	Introduction to SQL, P4 (SELECT)	6

13	04/21/18	Advanced SQL (JOINS)	7
14	04/28/18	**Final Exam**	6-7
15	05/05/18	Projects Presentations and Final Grades	

OTHER COMMENTS

- Please participate. What you put into the class will determine what you get out of it – and what others get out of it.
- Please come **on time.** Late arrivals disturb everyone else. Plan to stay during the whole class period. Attendance will be taken at least one time of each class. In the case where more than one attendance is taken, only students participating in all attendances would be considered as present.
- Students may not read other materials (newspapers, magazines) during class, and no multitasking is allowed.
- Students are not allowed to come and go during class sessions.
- There will be no make-up for a missed participation in a classroom activity.
- If you miss a class, you are responsible for getting notes/slide printouts or the material covered from a classmate.
- To avoid distracting noise in class, cellular phones **must** be turned off or the ringing mode silenced.

ACADEMIC INTEGRITY

I encourage you to collaborate on assignments and learn from your fellow students. However, there is a fine line between collaboration and cheating. Collaboration means discussing problems and solution approaches with other students and independently writing your own answers; cheating means copying solutions from someone else or giving someone else your solutions. If you have questions about what is acceptable, please bring them to me *before* submitting your work.

Cheating, plagiarism and helping others commit these acts are all forms of academic dishonesty, and will not be tolerated. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal.

MODIFICATION OF THE SYLLABUS

The instructor reserves the right to modify this syllabus at any time during the semester. Announcements of any changes will be made in a classroom.

Last Update: January 13, 2018. Additional updates may follow. See Canvas for new updates.

Appendix A. Program and Institutional Learning Outcomes

Institutional Learning Outcomes (ILOs)	
Graduates of the BA program of Lincoln University should be able to:	
1a	Develop the habits and skills necessary for processing information based on intellectual commitment, and using these skills to guide behavior.
2a	Raise important questions and problems, and formulate them clearly and precisely in oral or written communication
3a	Act with dignity and follow the principles concerning the quality of life of all people, recognizing an obligation to protect fundamental human rights and to respect the diversity of all cultures.
4a	Focus on individual and organizational benefits; communicate to co-workers and company's leadership in facilitation of collaborative environment; to be honest and transparent with regard to their work, and to be respectful of the work of others.
5a	Display sincerity and integrity in all their actions, which should be based on reason and moral principles; to inspire others by showing mental and spiritual endurance
6a	Show creativity by thinking of new and better goals, ideas, and solutions to problems; to be resourceful problem solvers.
7a	Define and explain the boundaries, divisions, styles and practices of the field, and define and properly use the principal terms in the field

Program Level Outcomes (PLOs)	
Students graduating our BA program will be able to:	
1	Demonstrate knowledge in the principle areas of general business and specific areas of concentration, which include: general business, management, entrepreneurship, and management information business.
2	Determine the information needed to evaluate a business problem. Apply critical thinking and reasoning skills to recognize credibility and accuracy.
3	Demonstrate the ability to communicate with others using written and oral communication tools.
4	Demonstrate the ability to use analytical skills to understand business problems and make well-informed decisions.
5	Apply and comply with ethical and legal principles and evaluate different ethical perspectives.

Appendix B. Classification of LU curriculum courses:

Code	Classification	Description
Courses < 10, and 300A/300B	Review (R)	Review courses are supplemental courses that are not a part of any program.
Courses 10 - 99	Introductory (I)	Introductory undergraduate courses are designed to acquaint students with foundational concepts, ideas, and competences in a specific field of study as well as general education disciplines. General Education courses provide a background in the liberal arts and expose students to the fundamental aspects of human culture. They also help students to develop analytical and communication skills and foundation for advanced work in the major field of study.
Courses 100 - 199	**Developed (D)**	**Developed undergraduate courses build upon the concepts, ideas, and competences introduced in the Introductory level; expanding students' understanding of the specific field of study.**
Courses 200 - 286	Advanced (A)	Advanced courses in undergraduate programs are intended to bring students' comprehensive knowledge of concepts, ideas, and skills in the specific field of study to the highest level within the baccalaureate programs.
Courses 288 - 299	Bachelor Assessment (BA)	Bachelor Assessment courses are structured to provide opportunity to assess students' achievements of set program learning outcomes.