IS 475: Database Design and Implementation

Class Times:	11:30 AM – 12:45 PM, Tuesdays and Thursdays
Class Venue:	CBC C125
Prerequisites:	Lee Business School major and a minimum grade of C in IS 383

Textbook: **Database Systems: Design, Implementation and Management**, 11th edition. Coronel, Morris & Rob, Cengage Learning.
10th edition can also be used

Lecture Notes: Available on WebCampus

Course Description

The primary purpose of this course is to provide you with a level of knowledge that allows you to be an effective manager of relational databases in a business environment, whether public or private. Subjects will include the theory, design, development, and management of modern relational databases. Cases are used to illustrate many of these subject areas. Basic technical skills for the class covers database design and implementation: including entity-relationship modeling, normalization, structured query language, and database management.

Learning Objectives:

By the time the students finish the course, they should be able to

- Understand key concepts of relational database management systems;
- Understand key management issues surrounding database technology and emerging business applications enabled by database technology;
- Understand the importance of database design through Entity Relationship Diagrams and models (ERD);
- Design and understand queries using Structured Query Language (SQL);
- Perform a real-world database design and implementation in Microsoft Access and MySQL.

WebCampus

Course information including the syllabus, class assignments, and notes will be posted on WebCampus (https://webcampus.unlv.edu/). NO hard copies of handouts and notes will be made available in class. If students desire hard copies of assignments and notes, they should print them off. Students will also submit their assignments electronically using WebCampus.

Policies

Audio/Visual Recording: Electronic recording of lectures is prohibited unless receiving prior approval from the instructor. Approval will be granted only for self-study purposes.

Telephone: One point will be deducted from your grade each time your mobile phone rings during class or each time you talk on a telephone during class.

Grading

Points will be earned based on 10 assignments, 3 tests and a final exam, a group project, and class participation. The following is a breakdown of the point assignments.

Assignments (10 total)	20 % (2% per assignment)
Tests (3 total)	30 % (10% per test)
Final exam	20 %
Project	25 %
In-class exercises and participation	5 %
Total points	**100%**

- **Assignment**: There will be 10 assignments which <u>must be of individual efforts.</u> All students are expected to write their own solutions. **<u>Do NOT show, give, trade, or copy solutions from anyone</u>**. You may and are encouraged to discuss ideas/concepts with others BEFORE you start implementing your assignments. BUT copying someone else's solution as well as letting someone borrow your solution consists of cheating, and will be taken seriously. If you have difficulties with the assignments, please see the instructor during the office hours or make arrangements outside the office hours. All assignments should be submitted via WebCampus. <u>Late assignments will NOT be accepted.</u>

- **Test and Exam**: This course will use three tests to cover the concepts covered in the three major portions of the course. The final exam is the only cumulative examination in the course. It is application focused and covers the main topic areas in the course.
  Make-up exams will be given ONLY in extreme and pre-approved circumstances. Academic dishonesty will result in an "F" for the course. All required lecture/text materials, lab handouts, and individual assignments will be sources of examination questions.

- **Project**: Students are expected to form <u>a group of 5</u> to conduct a project during the semester. The group project will be scored based on a project proposal, a design document, a prototype database application, a project report, and presentations. In this group project, you are required to analyze, design and implement a database system, using the database design and implementation methods discussed in the class. All members are expected to participate and contribute equally in the project and will receive the same grade for the project. The grade for each individual member will then be determined, using the group grade as a basis and taking into account the <u>peer-evaluation</u> results. Any conflicts with group members should be discussed prior to the completion of the project.

- **Participation:** Class attendance is important and will be a critical factor for doing well in this course. Students are encouraged to actively participate during lectures and class discussions. There will be random in-class exercises that will be assigned, completed, and submitted during regular class hours. Turning in every in-class exercise will only guarantee a participation grade of 3. Students need to actively participate in class discussions in order to receive a higher grade.

Disclaimer

If required, the course content and schedule may be changed at the instructor's discretion. Announcements made in class will over-ride any statement made here.

Grading Scale

93% and over	A		72%	C
90%	A-		70%	C-
88%	B+		68%	D+
82%	B		62%	D
80%	B-		60%	D-
78%	C+		Below 60%	F

Class Schedule (subject to change)

Date	Topics	Chapter(s)	
Aug 30 (Tue)	Introduction to IS 475		
Sep 1 (Thu)	Data Management and Database Concepts	1	
Sep 6 (Tue)	Data Models & Relational Database Model	2, 3	
Sep 8 (Thu)	Entity Relationship (ER) Modeling	4	Assignment 1
Sep 13 (Tue)	Advanced Data Modeling Lab: Microsoft Access (1)	5 Appendix M	Assignment 2
Sep 15 (Thu)	Lab: Microsoft Access (2) Review for Test 1	Appendix M	Assignment 3
Sep 20 (Tue)	**Test 1**		
Sep 22 (Thu)	Project Presentation: Business Requirement		Project Proposal Due
Sep 27 (Tue)	Converting ER Models into Database Structures	Appendix D	
Sep 29 (Thu)	Client/Server System Lab: MySQL (1)	Appendix F Supp. Material	Assignment 4
Oct 4 (Tue)	Introduction to SQL (1) Lab: MySQL (2)	7	Assignment 5
Oct 6 (Thu)	Introduction to SQL (2)	7	Assignment 6
Oct 11 (Tue)	Advanced SQL (3)	8	
Oct 13 (Thu)	Advanced SQL (4) Review for Test 2	8	Assignment 7
Oct 18 (Tue)	The Dark Side of Data **(Online)**		
Oct 20 (Thu)	**Test 2**		
Oct 25(Tue)	Project Presentation: Design		Project Design Document Due
Oct 27 (Thu)	Data Quality, Data Administration, and Security	15	
Nov 1 (Tue)	Databases and the Internet	12, 14	
Nov 3 (Thu)	Databases in Electronic Commerce	Appendix I	Assignment 8
Nov 8 (Tue)	Business Intelligence and Big Data	13, Appendix O	
Nov 10 (Thu)	Object Oriented Database and NoSQL Review for Test 3	Appendix G	Assignment 9
Nov 15 (Tue)	**Test 3**		
Nov 17 (Thu)	Group Project Workshop (1)		
Nov 22 (Tue)	Group Project Workshop (2)		
Nov 24 (Thu)	**Thanksgiving Recess (No Class)**		
Nov 29 (Tue)	Group Project Workshop (3)		
Dec 1 (Thu)	Group Project Workshop (4)		
Dec 6 (Tue)	(Study Week) Final Group Project Presentation		Final Project Due
Dec 8 (Thu)	(Study Week) Final Group Project Presentation Review for the Entire Class		Assignment 10
Dec 15 (Thu)	**Final Exam: 10:10 am—12:10 pm**		

CLASSROOM CONDUCT: Respect the computer equipment and use such equipment for class-related activities only. You should obviously avoid disrupting the class by engaging in conversations with other classmates on topics unrelated to the course.

UNIVERSITY POLICIES

Academic Misconduct—Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: https://www.unlv.edu/studentconduct/student-conduct.

Copyright—The University requires all members of the University Community to familiarize themselves **with** and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: http://www.unlv.edu/provost/copyright.

Disability Resource Center (DRC)—The UNLV Disability Resource Center (SSC-A 143, http://drc.unlv.edu/, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy—Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor **within** the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or **within** the first 7 calendar days of the course for summer and modular courses**,** of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: http://catalog.unlv.edu/content.php?catoid=6&navoid=531.

Transparency in Learning and Teaching—The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

https://www.unlv.edu/provost/teachingandlearning

https://www.unlv.edu/provost/transparency

Incomplete Grades—The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Library—Students may consult with a librarian on research needs. For this class, the subject librarian is https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at https://www.library.unlv.edu/.

Tutoring and Coaching—The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit http://www.unlv.edu/asc or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV Writing Center—One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: http://writingcenter.unlv.edu/.

Rebelmail—By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

Final Examinations—The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: http://www.unlv.edu/registrar/calendars.