Sisi Virasak
CS275 – Database Systems
Spring 2021 Syllabus

Email: virasas@linnbenton.edu	**Classroom:** Online
Office: MKH-108	**Class Day/Time:** Online **Discord:** https://discord.gg/zPcngq4zBH
Phone: 541-917-4617	**Office Hours:** By Appt.

Course Description and Objectives:

This course introduces the design, purpose and maintenance of a database system. Topics covered include the entity-relationship (ER) model, relational systems, data definition, data manipulation, query language and database management environments. Prerequisites: CS 161 Introduction to Computer Science I with a grade of "C" or better.

Learning resources:

1. Fundamentals of Database Systems 7th Edition Elmasri Navathe
2. SQL for MySQL Developers Rick F. van der Lans
3. (strongly recommended) A desire to learn and experiment, to design, test, and problem solve with code (both on and off of a computer).

Learner Outcomes:

1. Upon successful completion of this course, students will be able to:
2. Describe and explain a select list of common database management system terms.
3. Design and produce relational database models using entity relationship diagrams, integrity rules and normalization.
4. Write structure query language (SQL) statements to select, update and delete records. Write SQL statements to create, modify and drop tables.
5. Write SQL statements that use joins and set operators with multiple tables.

Assignment:

The Assignment included is to provide you an opportunity to apply the concepts and techniques you will learn in each chapter.

Discussion Forums:

This subject is growing rapidly as we move away from a file system to database. In this course we are covering a small portion of this subject and there are many important relevant concepts. I will post a question regarding data/database questions each week and the expectation is to post professional responses. The responses should be spelling and grammar error free. Each student

is required to provided a **paragraph (min. 5 sentences)** response to the question and respond to **2** student responses.

Midterm Exam:
The midterm exam is to assess your understanding of the concepts covered from week 1-week 5. There will be 50 multiple choice questions and it is open book/notes.

Grades Table:

Assignments/Exams	Weight
Assignments	20%
Discussion Forms	10%
Midterm Exam	30%
Final Project	40%
Total	100%

LBCC Center for Accessibility Resources:
Students who may need accommodations due to documented disabilities, or who have medical information which the instructor should know, or who need special arrangements in an emergency, should speak with the instructor during the first week of class. If you believe you may need accommodations, but are not yet registered with CFAR, please go to http://linnbenton.edu/cfar for steps on how to apply for services or call 541-917-4789.

LBCC Comprehensive Statement of Nondiscrimination:
LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.

LBCC Statement of Inclusion:
The LBCC community is enriched by diversity. Each individual has worth and makes contributions to create that diversity at the college. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill (related to Board Policy #1015).

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* As the course progresses, Assignments and due dates may be subject to change.

Week	Activity	Due Dates
Week-1 March 29	➢ Welcome, Introduction, Syllabus, Moodle ➢ Database Concepts	Assignment #1 Discussion Forum #1 April 4 @ 11:59 PM
#Week-2 April 5	Design Concepts ➢ The Relational Database Model ➢ Entity Relationship (ER) Modeling	Assignment #2 Discussion Forum #2 April 11 @ 11:59 PM
Week-3 April 12	Design Concepts Continued ➢ Advanced Data Modeling ➢ Normalization of Database Tables	Assignment #3 Discussion Forum #3 April 18 @ 11:59 PM
Week-4 April 19	Advanced Design and Implementation ➢ Introduction to Structured Query Language (SQL)/MySQL Workbench	Assignment #4 Discussion Forum #4 April 25 @ 11:59 PM
Week-5 April 26	➢ MySQL Workbench ➢ MySQL Database ➢ MySQL Query Data ➢ MySQL Sort Data ➢ MySQL Filter Data	Assignment #5 Discussion Forum #5 May 2 @ 11:59 PM **Midterm Exam**
Week-6 May 3	➢ MySQL Filter Data Cont. ➢ MySQL Joining Tables ➢ MySQL Group Data	Assignment #6 Discussion Forum #6 May 9 @ 11:59 PM
Week-7 May 10	➢ MySQL Subqueries ➢ MySQL Common Table Expressions (CTE) ➢ MySQL Set Operators	Assignment #7 Discussion Forum #7 May 16 @ 11:59 PM

Week-8 May 17	➢ Modifying data in MySQL ➢ MySQL Transaction ➢ MySQL Stored Procedures	Assignment #8 Discussion Forum #8 May 23 @ 11:59 PM
Week-9 May 24	➢ Managing MySQL databases and tables ➢ MySQL Constraints ➢ MySQL globalization	Assignment #9 Discussion Forum #9 May 30 @ 11:59 PM
Week-10 May 31	➢ MySQL Import and Export	Assignment #10 Discussion Forum #10 June 6 @ 11:59 PM
	Final Project Due: Wednesday June 9 @ 11:59 PM	

Potentially helpful links:

Database design:

General tips: http://www.vertabelo.com/blog/notes-from-the-lab/9-tips-for-betterdatabasedesign

Detailed design process and example:

http://www.cs.cityu.edu.hk/~helena/cs34622000B/DBDesign.pdf