SYLLABUS

Course: .....CS 276 Database Systems and Modeling, Credit Hours: 4 Credits

Prerequisite(s): .....CS 275 Basic Database SQL

Instructor: .....Lindy Stewart

Office Hours: .....On Campus Monday-Thursday 4:00pm - 5:00pm
Online – Zoom Wednesday 3:00 – 4:00pm

On Campus Office: .....Building 19 Office 156

Office Phone: 541-463-3151

Email: .....stewartl@lanecc.edu

COURSE OUTLINE

Textbooks:

Database Systems Design, Implementation, and Management 14ed
Publisher: Cengage Learning
Authors: Coronel and Morris
ISBN: 9780357673034

Required Technologies/Applications:

- ✓ Access to a computer to complete exams, quizzes, practice activities and labs
- ✓ Microsoft SQL Server 2019 or MySQL
- ✓ Visio (like or equivalent application is fine)
- ✓ Microsoft Word (like or equivalent application is fine)

Online Materials for the Course:

Course materials can be found on Moodle https://classes.lanecc.edu/

COURSE DESCRIPTION

This course is a comprehensive study of SQL and Transact-SQL(T-SQL) using the SQL Server relational database management system. You will have hands-on training that will include the use of database structures, models, management, and development in a relational database. T-SQL, SQL Server Management Studio, database creation, common language runtime (CLR), data queries, view definitions and use operators, functions, triggers, calculations, indexing, cursors and data manipulation will also be included in the learning experience.

COURSE OBJECTIVES/LEARNER OUTCOMES

Upon successful completion of this course the student should be able to:

1. Identify and utilize database design methodologies
2. Use and describe database connectivity and database-performance tuning
3. Describe distributed database management systems and their components
4. Identify and maintain databases with concurrency control, recovery management, account management and security
5. Identify and describe data modeling techniques
6. Use Transact-SQL to perform advanced SQL programming procedures, functions and triggers

COURSE STRUCTURE

This course is presented as a series of 11 modules over the course. These will include lectures, assignment/lab, term project, quizzes, and exams. The reading materials along with the course deliverables will be described in each module.

The quizzes and exams will cover textbook and lecture material. There will be weekly labs and activities based off of the readings required from each module. In place of having a final exam to show a comprehensive understanding of the learning objectives and course material that was covered over the entire term the term project will be used to measure your understanding and competencies.

Depending on the course modality, there may be resource video lectures and materials that can be found in Moodle. If needed or desired (TBD) we may also include Zoom meetup session once per week for Q and A.

STUDENT RESPONSIBILITY

No Show Drops: Per LCC policy, students who do not show up to class, participate with the learning material/lessons and or turning in assignments in the first week of the term may be administratively dropped.

Class Participation: Students are expected to manage their time to be able to complete the course curriculum activities. This includes, turning in all assignments and accomplish all of the quizzes and exams by the assigned due date.

Grade Disputes: If you wish to dispute the grade assigned to a lab, practice activity, a question on a quiz or exam, you must do so *in writing*.

DISTANCE LEARNING ETIQUETTE

When class is being presented in Zoom you are expected to attend on time and fully participate as if you were physically present in class. It may be tempting to search the internet or catch up on other activities while in class, but this will decrease your chance of successfully completing this course.

Keep your microphone muted unless you are speaking to the group. Consider using headphones/earbuds with a mic as this will reduce feedback and background noise. It is not appropriate to join class from your bed, while lying on the couch, walking around, or driving down the road, etc. If your video behavior is disruptive to the class, I will provide you with a prompt to change your behavior. If you cannot, I will eject you from the Zoom meeting in order to ensure that the other students are not disrupted by your actions.

GRADING SYSTEM

Each component will contribute to the following proportion:

Item		Points
Lab	8	@ 40 points = 320
Quizzes	8	@ 20 points = 160
Practice Activity	7	@ 10 points = 70
Midterm Exam	1	@ 150 points = 150
Term Project	1	@ 150 points = 150
Total		points = 850

Grade	Percentage Earned
A+	98-100%
A	93- 97%
A-	90- 92%
B+	88- 89%
B	83- 87%
B-	80- 82%
C+	77- 79%
C	73- 77%
C-	70- 62%
D+	68- 69%
D	63- 67%
D-	60- 62%
F	0- 59%

1. Participation. You should read the learning material and resources to help gain greater understanding of the topics. Complete all labs and submit your work by the due date.

2. Individual work. All work must be turned in on the due date as defined by 11:59 p.m. Late assignments are not allowed at this level, and result in a **"100%"** loss of the grade assigned unless there is an extension approved by the professor.

TERM SCHEDULE

Modules	Topic	Reading / Exams	Due
Module 1	❖ Review CS 275 Outcomes (SQL and design methods) ❖ Normalization	✓ Read Cengage Chapter 6, 7, 8 ✓ Additional Reading Resources (Moodle)	✓ Install SQL Server and Management Studio ✓ Practice Overview Activity (In class overview)
Module 2	❖ Advanced SQL ❖ Using SQL Functions ❖ Database Design	✓ Read Cengage Chapter 9 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 1 – ✓ Lab 1 – ✓ Quiz 1
Module 3	❖ Transaction Management and Concurrency Control ❖ Creating and Maintaining SQL Server Databases	✓ Read Cengage Chapter 10 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 2 – ✓ Lab 2 – ✓ Quiz 2 ✓ Term Project Ideas Due
Module 4	❖ Database Performance Tuning and Query Optimization ❖ SQL Server Views and Scripts	✓ Read Cengage Chapter 11 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 3 – ✓ Lab 3 – ✓ Quiz 3
Module 5	❖ Distributed Database Management Systems ❖ SQL Server Stored Procedures, Functions and Triggers	✓ Read Cengage Chapter 12 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 4 ✓ Lab 4 ✓ Quiz 4
Module 6	❖ Midterm	✓ Study for and take Midterm Exam	✓ Midterm Exam

Module 7	❖ SQL Server Transactions and Locking ❖ Business Intelligence and Data Warehouses	✓ Read Cengage Chapter 13 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 5 – ✓ Lab 5 – ✓ Quiz 5
Module 8	❖ Database Administration and Security ❖ How to manage database security	✓ Read Cengage Chapter 16 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 6 – ✓ Lab 6 – ✓ Quiz 6
Module 9	❖ Database Connectivity and Web Technologies (including XML) ❖ XML in SQL Server	✓ Read Cengage Chapter 15 ✓ Additional Reading Resources (Moodle)	✓ Practice Activity 7 – ✓ Lab 7 – ✓ Quiz 7
Module 10	❖ Big Data Analytics and NoSQL	✓ Read Cengage Chapter 14	✓ Lab 8 – ✓ Quiz 8
Module 11	❖ Term Project	✓ NONE	✓ Term Project

PROFESSIONAL BEHAVIOR

It is expected that students and faculty will be respectful of each other during class and classroom activities. Students and faculty are expected to be courteous, listen, and speak to each other in a respectful manner. In the spirit of professionalism and respect, please minimize potential class disruptions by turning cell phones off, and do not bring small children to class.

ACADEMIC INTEGRITY

Students are expected to be honest and ethical in their academic work. Dishonesty, cheating, plagiarism, and other forms of unethical behavior will subject a student to appropriate punishments. All submitted in this course is to be your own new, original work written in response to the assignments. Consciously or unknowingly presenting the ideas or writings of others as your own will result in academic sanctions.

If found guilty of cheating, plagiarism, or any other form of academic dishonesty, you will receive a zero on your assignment, and a report will be sent to the Student Affairs office, who has responsibility for enforcing Lane Community College's Student Conduct Code. Further information, including definitions of plagiarism and cheating, can be found in LCC's statement on Student

Academic Integrity https://www.lanecc.edu/sites/default/files/migrated-files/copps/code_of_conduct.pdf

TITLE IX

Lane Community College faculty and staff are committed to creating and maintaining a safe and equitable learning environment for the LCC community. Pursuant to U.S. Department of Education requirements, all LCC faculty and staff (other than designated confidential staff) must report any information they become aware of regarding gender-based bias, sexual harassment, sexual assault, sexual misconduct, relationship violence, or stalking involving a student to the college Title IX Coordinator.

In addition, Oregon law requires a mandatory report to the Oregon Department of Human Services of any physical or emotional abuse of a child or other protected person, including elders and people with disabilities, or when a child or other protected person is perceived to be in danger of physical or emotional abuse.

If you are the victim of sexual or physical abuse and wish to speak with a confidential resource, please call the National Sexual Assault Hotline at 1-800-656-4673. **The Anti-violence Project, empowering LGBTQ+ communities, provides a 24/7 confidential English/Spanish hotline for those who have experienced violence: 212-714-1141.**

You can find LCC's Title IX guide here:
https://inside.lanecc.edu/sites/default/files/sexualrespect/title_ix_guide_updated_february_2022.pdf

CLASSROOM CONDUCT

Your conduct in the classroom should promote a positive learning environment. Conversations and comments should always be respectful; demeaning comments and offensive language will not be tolerated. Students are expected to abide by LCC's Student Conduct Code:
https://inside.lanecc.edu/sites/default/files/copps/code_of_conduct.pdf

Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other institutional activities on institutionally owned or controlled property is strictly prohibited by Lane Community College's code of student conduct and may result in disciplinary action.

DROPPING A COURSE

For students who do not attend class the first week of the term, may be administratively dropped from the course. If you determine that you do not want to take the course after the term has begun it is your responsibility to drop the course. Do not rely on getting administratively dropped. For deadlines and refunds information can be found in the Academic calendar, which can be found here:
https://www.lanecc.edu/programs-academics/registration-schedules-and-academic-calendar/schedule-changes-and-grading-important-dates

NON-ATTENDENCE

Teaching faculty are required to report non-attendance during the first week of the term from a class if the student has not attended. Students will be administratively withdrawn from the course based on non-attendance/participation.

If you miss class, you are still responsible for the material and homework assigned. If you know you will miss class for an official excused absence (e.g., school sports), let me know **well in advance** via email, and we can arrange an alternate quizzing plan.

INCOMPLETE GRADE POLICY

In order to be eligible for an "Incomplete" grade, LCC policy requires that students must have completed 75% of all course work by the time grades are due at the end of final's week. Incompletes are not automatic and are arraigned at the discretion of the instructor. If you have a personal matter preventing you from completing the course and have successfully completed most of the course work, please contact the instructor as soon as possible. Additionally, depending on the circumstances, to maintain fairness to the students who complete within the allotted timeframe, a one full-grade reduction may be assigned. However, all requests will be handled on a case-by-case basis. For further information you can find it here: https://inside.lanecc.edu/copps/documents/incomplete-grade

ACCESSIBILITY AND ACCOMODATIONS

To request accommodations, contact the Center for Accessible Resources at (541) 463-5150 or AccessibleResources@lanecc.edu.

FLEXIBILITY STATEMENT

Assignments/exam schedules may be changed in response to institutional, weather or class changes or problems.

CIT LAB

CIT computer lab is here for you! The purpose of this lab is to provide instructional support for CIT courses and labs. You can access resources that include: drop-in tutoring, reference books, computers and high-speed internet. It is also a great place to collaborate with your peers and instructors. I would highly recommend taking advantage of this space.

Lab hours and location can be found here: https://www.lanecc.edu/programs-academics/academic-departments/business-technology-and-trades/computer-information-technology/cit-computer-lab

DISCLAIMER

Content of syllabus is subject to change at instructor's discretion.