University of Wyoming
College of Engineering
Department of Computer Science

Computer Science 4820 - Database Systems

SYLLABUS

Semester	Spring 2023
Meeting	Monday, Wednesday, Friday from 1:10-2:00 pm, EN 3112
Instructor	Dr. Kim Buckner
Office	EN 4089
Office Hours	•Monday & Wedensday: 11:00 AM-12:00 PM •Tuesday & Thursday, 1:00-2:30 PM •Other times are available by appointment
Contact	•Email: kbuckner@uwyo.edu •Office Phone: 307-766-5182

Course Description: Provides coverage of the problems involved in database design, in-depth coverage of data models and database languages. Students acquire practical skills of conceptual/logical database design and general familiarity with the problems and issues of database management.

Each student will complete a Data Base Design Project for the Course. This is intended to bring together all the course concepts into a hands-on implementation similar to what might be encountered in industry.

Prerequisites: COSC 2030

Objectives: Upon completion of the students should be able to:

1. Utilize database management systems (such as Oracle, SQL and MySQL) that are used in the industry and computing profession

2. Express database queries in modern database languages (i.e., SQL)

3. Analyze, design, and implement database projects in accordance with industry standards (i.e., ER-model, relational model, UML, ODL)

4. Provide written, oral, and visual presentation of database projects

5. Perform basic DBA (Database Administrator) tasks

Required Text: A First Course in Database Systems, 3/e, Jeffrey D. Ullman and Jennifer Widom, Pearson Education Inc.

Course Policies:

- Grading:

    - A 90% - 100%
    - B 80% - 89%
    - C 70% - 79%
    - D 60% - 69%
    - F Below 60%

- Percent of Grade:

    - Homework: 45%
    - Exams: 20%
    - Course Project: 25%
    - Final Exam: 10%

Homework and Projects: Each homework and project will have a due date and time assigned. Any late homework will be assessed a 5% (five percent) per day late penalty up to 2 days. The "days" are 24 hour periods starting immediately after the assigned due date and time. If the homework is turned in within the first 24 hours, it will be 1 day late and so on. No homework will be accepted more than 2 days late and will be given a 0 (zero) grade. No projects will be accepted after their assigned due date and time. All projects not turned in on time will be assigned a 0 (zero) grade.

Assignments will be made in class and posted/managed on WyoCourses. The method of submitting assignments will be specified when assigned. Failure to comply with the assigned submission method will result in a 0 (zero) grade for the assignment.

Academic Dishonesty: See "Classroom Climate & Conduct" document.

Collaboration and discussion are acceptable, but you MUST do your own work. The grade you receive must represent your effort and achievement not that of others. Anything else is unfair to you and to your fellow students.

Attendance: Attendance at the lecture is highly recommended as not all material will come from the text. (see further UW Regulation 2-108)

Students with disabilities: See "Learning Tools" document.

COVID-19 Policies

The University has not recently updated the Campus COVID-19 policy. Check current policy, guidelines, and resources for updates. My policy is, STAY HOME IF YOU ARE SICK.

Other Information: The use of cell phones, pagers, and other devices that beep,ring,etc. is prohibited in class. They must be turned off or set to "silent". Text messaging is extremely distracting so please wait until after class to reply to or check your messages.

WyoCourses will be an integral part of the class. You are free to customize your notifications but please check whatever regularly. Course information may be distributed by email and you will be held responsible for any such information. It may also be distributed by WyoCourses announcement. The course site will maintain the most current copy of this syllabus, the homework assignments and projects, and a gradebook. The gradebook will only have the grades for assignments, exams, and attendance.

Basic Course Schedule: The academic calendar that can be accessed from WyoWeb, shows 'important' dates. The ones that most concern us are:

- January 18, First class

- January 26, Last day to drop

- February 17, Semester break

- March 13-17, Spring Break

- March 21, Midterm Grades due

- April 17, Last day to withdraw from a class

- May 05, Last Class

Topics to be covered:

† General overview of databases

† Relational algebra

† Functional dependencies

† Design for Schema

† Normal forms

† Multi-valued dependencies

† Modelling, UML, ODL

† SQL/MySQL

† Transactions

† Administration and Security

Notes:

- The exams for this course will be "comprehensive" in that you will be responsible for all of the course material assigned, discussed, or covered in any way from the first day of the course up until the start of the exam. There will be at a minimum two exams during the semester and the final exam. There may be other exams along the way as a method evaluating the class's progress. Any additional exams will be announced at least two (2) class periods in advance.

- Exam questions will be of the short answer or essay type. If you have any question about what that means in terms how you should answer, please ask me.

- Office hours are kept for the benefit of the students. They are intended to be set times when the instructor is known to be available in his office to answer questions, discuss course material and provide help. If I will not be available for office hours, you will be notified as much in advance as possible. There are times when this may be a sticky note on my door. I am normally here at the University from 0800 to 1430 Monday through Friday. I do have other classes. If you wish to come by outside of scheduled hours, please feel free. I will not guarantee that I can talk to you but we can make arrangements for some other time when I am available. You can also phone or email. I have an "open-door" policy: that is if the door is open regardless of the scheduled time, ask questions. I may tell you I am busy but I will NOT be upset at you for stopping by.

- I do not often read email in the evenings or on weekends. I do have my machine on all the time I am in the office and unless I get absorbed in something, I read and answer my email all day. But, do not plan on an immediate answer. I will read and answer as fast as I can but there are no guarantees I even remember what time it is let alone when the last time I checked my email was.

This Syllabus: This document is subject to change. Any changes will be communicated to the students in a timely manner via WyoCourses per UW Regulation 2-117. No changes involving grading will affect assignments already given at the time of the change. No changes in assignment due dates will affect current assignments if such change causes the assignment to be due earlier than originally indicated.

Last Update: November 17, 2022