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E-MAIL: Judy.Fightmaster@csn.edu (used during months that class is not in session or for emergency only; students should use Angel email during the semester)
OFFICE HOURS: Online, Mondays, 1:00-6:00 PM; other times per request

CLASS LOCATION/TIME: CIT 180 is a three-credit distance education class [call # ____] that is offered entirely online between January 21 and May 15. Internet access is required for homework submission, quizzes and final exams. Each lesson must be completed by the announced due date in order to receive full points. Students may choose to work from an IBM personal computer of their choice including computers in a few of the campus computer labs (contact instructor for participating computer labs).

CATALOG DESCRIPTION: Basic concepts of data modeling and relational database design. Hands-on learning of Structured Query Language. Prerequisite: IS 115 or equivalent programming experience or permission of instructor.

COURSE OBJECTIVES: This course will provide you with a solid understanding of the relational model and of the theory behind SQL. Furthermore, it will address the needs of both the user and the developer. From the user's standpoint you will become proficient at translating information needs into appropriate SQL statements. From the developer's standpoint you will gain experience in designing databases which conform to the relational model. Specifically, when you successfully complete the course, you will be able to

- explain the fundamental concepts of relational database design
- demonstrate how relations (tables) can be normalized
- use the operations of relational algebra to create new relations from existing relations
- explain the implementation of relational algebra in SQL
- use SQL commands to create tables and to insert, update and delete data in tables
- embed SQL commands in a program
- using normalized database tables, formulate SQL queries of varying complexity to extract information from the tables
- design and implement an SQL-based information system to meet the requirements of a case study or of an actual user.

REQUIRED MATERIALS:

Textbooks: *Murach's SQL Server 2008 for Developers* by Bryan Syverson and Joel Murach. ISBN: 978-1-890774-51-6

AND

Database Design in Plain English by Joe Herzog. (Paperback, BookSurge Publishing) ISBN: 9781419670275

Software: Although SQL and database concepts covered in this class can be applied to all RDBMS environments (PC, mini, mainframe and web-based) and vendor products, our lab work will be done using the popular and newest version of Microsoft SQL Server: 2008. You will download and install the free SQL Server 2008 Express with Tools edition. Instructions on how to correctly install this software will be provided when the class starts. Students who do not have the necessary platform for a successful install need to use one of the available CSN Computer Labs in order to complete most assignments. Check with the lab assistants to find out on which pods SQL Server 2008 is installed. Time permitting, you will also have the opportunity to use SQL with other vendor products.

Angel Access: An Angel "classroom" has been set up to guide the learning activities and to facilitate communication between students and instructor. All assignments are posted in the appropriate Angel discussion board. A requirement of this course is that all students must check this location for messages frequently, turn in lab assignments and take quizzes using Angel. From the college home page (www.ccsn.edu) select Web Campus and follow the logon instructions. Some assignments will require additional Internet access.

GRADING POLICY: Points are divided somewhat equally between lab work and multiple-choice tests. The following are requirements of the course, their weights and the minimum accumulated points for letter grades:

Requirements	Points
Homework	200
Class participation	25
Quizzes	175
Final Examination	200
Total:	600

Letter Grade	Minimum Points
A	540
B	450
C	360
D	300

DISABILITY RESOURCE CENTERS: If you have a documented disability that may require assistance, you will need to contact the Disability Resource Center (DRC) for coordination of your academic accommodations. The DRC is located in Student Service Center on each campus. For Cheyenne campus the number is 651-4045, for West Charleston campus the number is 651-5089, and for Henderson campus the number is 651-3086. For those students that would like to perform community service or earn a little extra cash, stop by the DRC to fill out a job interest card. This office hires students as note takers, proctors, scribes and research assistants as needed.

COURSE ACTIVITIES: In order to facilitate your success in learning this highly technical application, your lessons will be structured around the following activities:

Instructor's introduction and examples: These will introduce new topics and might provide some lab examples to help students master the material.

Textbook readings: For most assignments, students demonstrate that they have read the assigned textbook pages by providing short answers to questions about the material and by repeating SQL examples demonstrated by the author.

SQL Homework: Additional SQL lab assignments are provided to reinforce the instructor's comments and the reading assignments.

Quizzes: These are posted on Angel and are available for retake if students need to improve their scores. They are based on textbook readings, instructor postings, and lab work. The focus of each quiz will be on the work of the most recent two-week period, but there is no way in a subject like SQL that the material covered earlier in the semester can be totally ignored. Most quizzes consist of 20 multiple choice or true/false questions randomly generated from a database of approximately 100 questions on each of our major topics. Quizzes are timed tests (usually 15 minutes) and once the time limit has been exceeded, no more answers can be recorded. You will see your results immediately after finishing the quiz.

Discussion Postings: There will be two mandatory class discussions on pre-announced topics.

Examinations: At the end of the semester there will be a comprehensive final examination covering all assigned material. The exam will have two equal parts: an objective (multiple choice, true or false) test and a practical SQL lab test that will follow the same format as the lab assignments.

Course activity and due dates: Assignments are released sequentially, a few lessons at a time. Lab grades are usually posted 4 days after the due date. If you have submitted your assignment early, the grade will not be posted until 2-4 days after the close of the assignment. All lab homework assignments are built on the work of prior weeks. Under no circumstances should you skip doing an assignment. **Work turned in late will lose one point for each day it is late.** The calendar shown below summarizes all due dates.

COURSE POLICIES: The instructor will not assign a grade of W (withdraw) or I (incomplete) to the student. Students must initiate a request with the CSN Records and Admissions Office to change status or drop courses. The number of points accumulated by the end of the semester will determine the grade earned.

Changes to the syllabus and/or calendar: Many things could happen in the course of a semester that would require changes to the initial plan and the instructor reserves the right to make those changes on an as-needed basis. Any changes will be broadcast to the students through a Angel bulletin board posting. If in doubt, the student should check the date and time at the end of this document with any they have printed earlier.

Academic dishonesty: According to the Schedule of Classes, "CSN demands a high level of academic behavior. Acts of academic dishonesty including plagiarism and cheating, are regarded as very serious offenses." Any student commits an academic irregularity when one or more of the following or similar situations is involved.

- Copying another student's work or program.
- Copying answers from another student, or use of unauthorized notes or books during an examination.
- Theft or unauthorized possession of an examination.
- Use of another person's file or removable storage device.
- Allowing another person to have access to your file or removable storage device.

There is a big difference between working together on an assignment and turning in the same homework file. In this class all academic irregularities will result in a grade of ZERO for that test/assignment and will be reported to the Vice President for Student Services.

Attendance policy: Each student's date of last attendance, should it be required for financial aid or court reporting, will be determined by the last homework assignment submitted or last quiz completed - whichever is last.

WEEKLY SCHEDULE: See last page of this document

Lesson #	Due on Sunday	Topic/Assignment	Quiz
1	Jan 24	Introduction to relational databases and SQL. Read the syllabus. Become familiar with Angel. Purchase textbooks. Download and install SQL Server 2008 Express and textbook databases. Posted instructions will help you through this. Reading assignment: SQL, p. xvii to p.21, 739-744, 750-751 Post your introduction on the Discussion Forum.	
2	Jan 31	Relational Databases, SQL Server Management Studio. Reading assignment: SQL, pages 22-79	1
3	Feb 7	Simple Select. Reading assignment: SQL, pages 83-119	
4	Feb 14	Simple Select continued. Data Functions Reading assignment: SQL, pages 83-119, 235-285	2
5	Feb 21	Inner Joins. Reading assignment: SQL, pages 121-135	
6	Feb 28	Outer Joins, Unions. Reading assignment: SQL, pages 136-153	3
7	Mar 7	Summary Queries. Reading assignment: SQL, pages 158-176	
8	Mar 14	Subqueries. Reading assignment: SQL, pages 179-207	4
	Mar 21	SPRING BREAK	
9	Mar 28	Action Queries. Reading assignment: SQL, pages 211-232	5
10	Apr 4	Data Structures. Reading assignment: SQL, pages 291-299, DB Design, pages 1-38	
11	Apr 11	Primary and Foreign Keys. Reading assignment: SQL, pages 300-303, DB Design, pages 39-68	6
12	Apr 18	Normalization, Indexes. Reading assignment: SQL, pages 304-317, DB Design, pages 69-103	
13	Apr 25	Relationships, DDL. Reading assignment: SQL, pages 322-345, DB Design, pages 105-116	7
14	May 2	Design Process. Management Studio Reading assignment: SQL, pages 350-365, DB Design, pages 117-134	
15	May 9	Implementation, Views. Reading assignment: SQL, pages 368-389, DB Design, pages 135-149	8
16	Saturday May 15	Final Exam. There are two equal parts to the final exam: a comprehensive multiple-choice test and a practical SQL lab that includes creating, populating, maintaining and querying a database using SQL. Both parts must be completed by midnight on May 15th. No late exams will be accepted. Students will receive an Angel email with their final grade by May 19th. The Angel classroom will be unavailable after May 20th.	