CPSC 350 Syllabus

Instructor: Dr. Durell Bouchard
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Course Objectives

This course provides an introduction to database systems. Topics include the architecture of a database system, the query language SQL, database design, data mining, and issues data concurrency, security and integrity in the context of multi-user database systems. Students will put the knowledge and skills gained to use by designing a database and creating a graphical application that uses the database.

Intended Learning Outcomes: By the end of the course, successful students will be able to:

1. design a relational database for a given data set.
2. use the Structured Query Language (SQL) to create relational databases.
3. formulate queries to extract appropriate data from a given relational database.

Course Content

Prerequisites: CPSC170 or DATA170

Text: This course does not require a textbook. Instead, it uses free online materials.

Project: The course's primary focus is a group data analysis project. This project aims to integrate all the software tools and skills you have acquired throughout the semester into developing an interactive data analysis tool.

Activities: In-class activities allow you to practice your database skills. These activities will help you get ready for the final project.

Assignments: We will have regular reading and programming assignments to help us learn to write data queries. Completing these assignments will prepare you for the in-class activities.

Grading: Course grades are assigned based on the following weights and scale:

Grade Weights

Category	Weight
Project	50%
Activities	25%
Assignments	25%

Grade Scale

Grade	Range	Grade	Range
A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Course Policies

Attendance: Class attendance is crucial for success in this course; the material covered during missed sessions remains the student's responsibility. If you anticipate being unable to attend class, please email me before class to request an excusal.

Late Work: Unless specified otherwise, assignments must be submitted before the start of class on the due date. If you anticipate being unable to meet a deadline, email me before the deadline to request an extension. Unexcused late work will receive no credit.

Academic Integrity: I expect everyone to follow the Academic Integrity policy detailed in the handbook [Academic Integrity at Roanoke College](). Please get in touch with me if you have questions about how these policies apply to our class. The bottom line is that all work you submit for a grade must be solely your own unless explicitly stated as group work.

Electronic Devices: All cell phones must be silenced and stored out of sight during class. The use of any electronic device during a test or quiz is prohibited. Using such a device during a test or quiz will be considered a breach of academic integrity.

Subject Tutoring: Subject Tutoring, located on the lower level of Fintel Library (Room 5), is open 4-9 PM, Sunday-Thursday. Subject Tutors are highly trained, current students who offer free, one-on-one (and small group) tutorials in over 80 courses taught at Roanoke College, including: Business, Economics, Mathematics, INQ 240, Modern Languages, Lab Sciences, and Social Sciences. Check out all available subjects and schedule 30- or 60-

minute appointments at <www.roanoke.edu/tutoring>. If you have a question, feel free to stop by, or contact us at subject_tutoring@roanoke.edu or 540-375-2590. See you soon! soon!

Accessible Education Services: Accessible Education Services (AES) is located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must self-identify to AES, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact Dustin Persinger, Assistant Director of Academic Services for Accessible Education, at 540-375-2247 or by e-mail at aes@roanoke.edu to schedule an appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Dustin Persinger at your earliest convenience to schedule an appointment and/or obtain your accommodation letter for the current semester.

Student Health & Counseling Services: Student Health & Counseling Services supports students through in-person health appointments, in-person counseling, 24/7 telehealth (TimelyCare), Therapy Assistance Online, as well as resources related to general wellness, LGBTQ+, sexual assault, substance abuse, and suicide prevention. Unmet health needs can negatively impact your performance in this course. Student Health & Counseling Services can help. Please see https://www.roanoke.edu/shcs for more information and to access services.

Diversity: I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability - and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

Preferred Name/Pronoun: I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so I can make appropriate changes to my records.

Course Schedule

This course expects you to spend at least 12 hours of work each week inside and outside of class.

Week	Topic
1	Introduction

Week	Topic
2	Select
3	Filter
4	Join
5	Aggregate
6	Subqueries
7	Updating
8	Creating
9	Design
10	GUI
11 - 13	Project