

Brock University
Department of Computer Science

COSC 3P32 – Introduction to Database Systems
Winter 2024

Instructor: Naser Ezzati-Jivan

- **Email:** nezzati@brocku.ca
- **Office:** MC J312.
- **Office hours:**
 - Monday and Friday 10:00 am to 11:00 am
 - Offline questions: by email
 - Online session: by appointment

Course Information:

Course Description:

This course examines fundamental database concepts including specification, design and applications; various models including the relational model; normal forms, efficiency considerations, queries using SQL, database administration and security.

Credit Hours: 36

Location: STH202

Period: Jan 8, 2024, to Apr 05, 2024

Time: Monday: 8:00 am to 9:30 am, Wednesday: 8:00 am to 9:30 am

TAs:

- Alireza Ezaz (ow23gq@brocku.ca)
- Ati Sarvi (as22nc@brocku.ca)
- Israt Jabin (qy23ia@brocku.ca)

Lab Instructors:

- Pranjali Chakraborty (kv20kh@brocku.ca)
- TBD

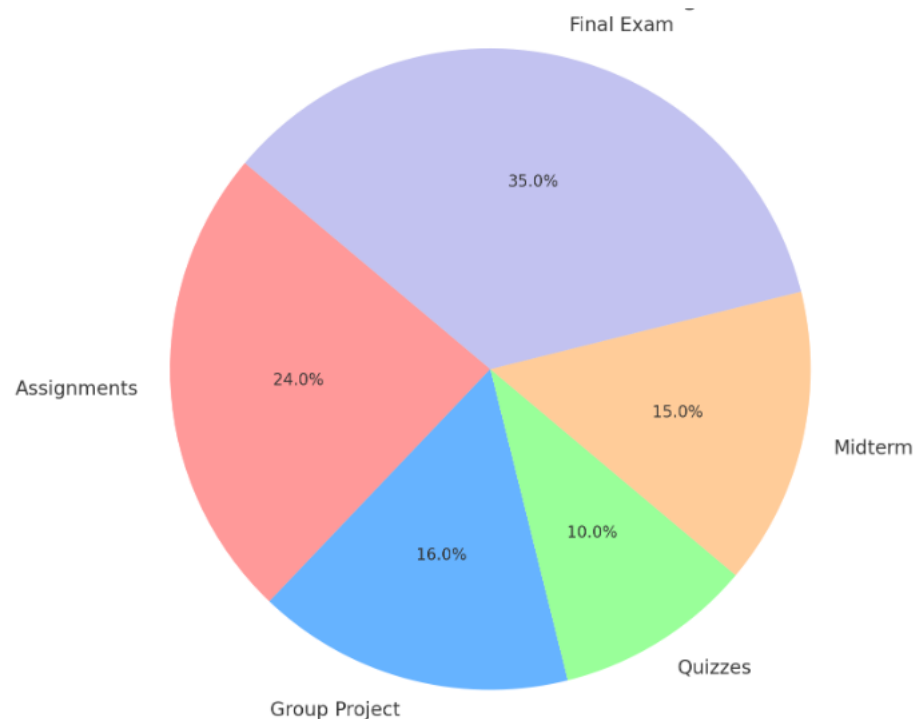
Prerequisite: COSC 2P03 (minimum 60%)

Exclusions: Completion of this course will replace previous assigned grade and credit obtained in COSC 2P32.

Recommended Textbooks:

- Database Management Systems, 3rd edition, Raghu Ramakrishnan & Johannes Gehrke, McGraw-Hill, ISBN: 0-07-246563-8.
- Database System Concepts, 7th edition, Avi Silberschatz, Henry F. Korth and S. Sudarshan, McGraw-Hill ISBN 9780078022159.

Mark Distribution:



- **Assignments:** $3 * 8 = 24\%$
 - There will be 3 assignments.
 - Due date for each assignment submission will be printed on the assignment text.
 - Assignments are usually “Individual” and each student is individually responsible for completing the assignment and will receive an individual grade.
 - Random students may be chosen to explain their assignment material to the instructor.
 - Tentative release dates for assignments:
 - Assignment 1: Week of Jan 29th
 - Assignment 2: Week of Feb 26th
 - Assignment 3: Week of March 25th
- **Group Project:** 16%
 - Tentative deadlines for project: April 23rd at 23:55
 - You will receive the project description in early March.

- **Lab sessions:** 4 lab sessions during the semester
 - Tentative lab schedule:
 - Lab1: Week of 29th January
 - Lab2: Week of 12th February
 - Lab3: Week of 4th March
 - Lab4: Week of 18th March
- **Quizzes and in=class/lab participation:** 10% (= 5% + 5% bonus)
 - Up to 4 pop-up (unscheduled) quizzes
 - One quiz will be in one of the lab sessions.
- **Midterm:** 15%
 - Midterm-date: Feb 14th at 8:00 am to 9:10 am and will cover the first 4 chapters.
- **Final Exam:** 35%
 - Obtaining 40% of the final exam is required to pass the course.

Tentative Outline:

- Introduction to Database Systems
- The Entity-Relationship (ER) Model
- Introduction to the Relational Model
- Query Languages: Relational Algebra and SQL
- Schema Refinement and Normal Forms
- Storage and Indexing
- Transaction Management
- Optional Topics, including (but not limited to) Query Evaluation, Security.

Important Dates:

- First day of classes: 8 January
- Last day of lectures: 5 April
- Snow/Reading days: 9 April
- Reading Week: 19 – 23 February
- Exams: 10 – 23 April
- Deadline for withdrawal without academic penalty: 8 March
- The most recent listing of Important Dates for all durations is at <https://brocku.ca/important-dates/all/>

Course Policies:

- **Illness:** If you miss a test or coursework due to illness, you must submit a student medical certificate (<http://www.cosc.brocku.ca/forms/medical>) within 3 days of the illness, at the main office in the Computer Science department.
- **Plagiarism:** The department views plagiarism as a serious issue. Students may visit <http://www.cosc.brocku.ca/about/policies/plagiarism> to view the department's policies on plagiarism.
- **Final Exam:** To pass this course, you must obtain a mark of at least 40% on the final exam.
- **Attendance:**

- In-class participation is strongly recommended. Exams & assignments will be based on the covered materials in the class.

AI-Tools Usage Policy:

- You are **allowed** to use AI-based tools such as Bard, CoPilot, ChatGPT, or similar models for understanding and learning course materials.
- However, using them in answering your assignments and project, and/or copying and pasting answers, queries, or code generated by these AI tools for assignments or projects is strictly prohibited.
- Your submissions **must be** your own original work.
- When submitting assignments/project, you may optionally include a brief statement describing how these AI tools aided your learning process, if applicable.

Additional Notes:

- Lectures will be delivered in person.
- Lecture slides will be posted on Brightspace in the Content/Lecture Slides menu.
- All assignments are to be completed individually. Assignments will vary in weight; the weight will be given on the assignment text. Assignments carrying a higher weight are naturally expected to require more time to complete.
- The project is to design and implement a database system using a specified relational DBMS. Each group should be composed of 3-4 members. Unless there are exceptional circumstances, all members of the same team will receive the same mark for the project. The instructor has the right to make a decision regarding the makeup of teams and the allocation of marks within each individual team; once made, such a decision will be final.
- Due dates for assignments, project components and lab activities will be provided on the assignment text. Such work will be accepted up to 3 days late with a one-time penalty of 25%. You are strongly encouraged to hand in all course work even if it is incomplete. Generally, it is to your advantage to hand in course work on time, even if it is incomplete.
- All assignments and projects must be submitted to Brightspace.
- There are scheduled labs for this course, however the labs will only be staffed when lab activities are to be completed. The dates of scheduled lab activities will be announced in class and on the course webpage. For assistance at other times and for assignments in particular, students should go to the COSC help desk in J328 during the scheduled times, shown here: <http://www.cosc.brocku.ca/help>.