



UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

FACULTY OF ENGINEERING, DESIGN AND TECHNOLOGY
DEPARTMENT OF COMPUTING AND TECHNOLOGY
ADVENT 2025 SEMESTER EXAMINATION

PROGRAM: BSIT 2:1, BSDS 3:1

YEAR: 2 & 3 SEMESTER: 1

COURSE CODE: CSC2209

COURSE NAME: DATABASE PROGRAMMING

EXAMINATION TYPE: PROJECT-BASED EXAM

PROJECT DURATION: December 2025

TIME ALLOWED: TWO WEEKS

Examination Instructions

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1. The general Uganda Christian University examination guidelines, academic & financial policies apply to this examination. Violating any of the policies by the student automatically makes this examination attempt void, even if you have completed and submitted the answer booklet.
 2. This exam is project-based and should be executed in two weeks.
 - i. Assessment of the project shall be based on five milestones. Each milestone shall be evaluated out of 20 marks.
 3. Each milestone in the exam will be graded (See milestone table).
 4. Students should prepare to make a presentation of their work on the day scheduled for this exam. This will be a physical presentation. Any candidate who fails to present during their presentation slot will not be given another opportunity.
 5. Students will also be required to submit softcopies of their documentation and their system on the UCU Moodle platform
 6. Upload the zipped/Compressed folder of your database project on Moodle under the **EXAM SUBMISSION** section
 7. Any student who does not present his/her work will be considered to have missed the exam.

PART A: PROJECT DESCRIPTION

Project Title: Design and Implementation of a Database Application

Objective: Design and implement an optimized secure functional database project. The developed project will include data collection, analysis, database design, implementation and management.

Task: Propose and recommend a scenario or challenge that will be required to identify a database solution in one of the following fields;

- i. Education
- ii. Agriculture
- iii. Health.

The database solution should be targeting a specific problem in alignment with a particular **Strategic Development Goal (SDG)**. This alignment should be well explained by the candidate with clear functionalities that address the problem. The candidate will be required to demonstrate these during the exam presentation.

Detailed information on major milestones is in PART B.

PART B: Project-based assessment guidelines

| S/N | Milestone Description | Maximum Marks |
|-----|---|---------------|
| 1 | MILESTONE ONE: Requirements Specification <ul style="list-style-type: none"> • Use appropriate tools and techniques to collect relevant information that will give clarity on the major functional requirements to inform your solution development • Perform requirements elicitation, based on the data collected and come up with a list of functional requirements. • Also develop a list of assumptions that will be made during the development of the solution | 20 % |
| 2 | MILESTONE TWO: Design <ul style="list-style-type: none"> • Base on the generated list of requirements and assumptions to come up with a logical model (Enhanced Entity Relationship Diagram) for your database solution. Features like specialization, generalization, categorization, disjoint, overlapping, categorization and inheritance should be inclusive. • Your model should reflect referential integrity and major business rules to guide the system operations. | 20 % |
| 3 | MILESTONE THREE: Database development [Structure and Data Validation] <ul style="list-style-type: none"> • Base on the model to develop a database which will be used to manage the relevant data. • Use appropriate constraints to validate your data and avoid garbage-in. The constraints should be enforcing the operational rules stated or assumed. Use of relevant functions | 20 % |
| 4 | MILESTONE FOUR: Security and automation [User Privileges and roles, Stored procedures and triggers] <ul style="list-style-type: none"> • Enforce views, user authentication, privileges and roles to ensure privacy and regulate what the different users can perform on the database. • Allow for code re-use and action automations using stored procedures and triggers. • Backup and recovery features/ strategies. | 20 % |
| 5 | MILESTONE FIVE: Documentation and Dissemination <ul style="list-style-type: none"> • You are required to test your system before the presentation day. • Prepare brief documentation (Not more than 10 pages) on your database. • Prepare a presentation to guide your dissemination. • A dump file of the database, presentation file and documentation file should be zipped in a folder labeled with your registration number for submission on the presentation day. | 20 % |
| | TOTAL MARKS | 100 % |

~END OF EXAM GUIDELINES~