



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

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PROGRAM: BSIT, BSCS, BSDS

YEAR: 3

SEMESTER: 1

COURSE CODE: ICT3122, CSC3125, DSC3121

COURSE NAME: RESEARCH PROJECT I

EXAMINATION TYPE: *PROJECT-BASED EXAM*

EXAMINATION DATE: NOV/DEC 2025

TIME ALLOWED: Two weeks

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#### Examination Instructions

1. The general Uganda Christian University examination guidelines and 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 three milestones.
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 soft copies of their project proposals and presentation slides and a designed poster to the UCU Moodle elearning platform under the **EXAM SUBMISSION** section. A link to the GIT-HUB account hosting the project prototype should also be submitted on Moodle.
6. Any student who does not present his/her work will be considered to have missed the exam.

## PART A: Exam Narrative

This exam assesses the work done in phase I of your final year research project. This exam will assess particular components of your research project as detailed in the milestone table below.

Each milestone will be graded out of a specified score to contribute to the overall exam score (100%).

## PROJECT DESCRIPTION

Based on the final year research project you are working on: prepare a proposal document; work on prototype I; prepare a presentation of your work. The task will be graded based on the milestones described in the assessment table below;

## PART B: Project-based assessment guidelines

S/N	Milestone Description	Maximum Marks
1	<p><b>MILESTONE ONE: Proposal Document (Maximum 6-10 pages excluding references and Appendices)</b></p> <ul style="list-style-type: none"><li>• Prepare and submit a complete proposal for your final year research project. The proposal must capture the following aspects;<ul style="list-style-type: none"><li>✓ The following sections of a research proposal are expected:<ul style="list-style-type: none"><li>▪ <b>TITLE PAGE</b> : The title page should follow the department specific guidelines</li><li>▪ <b>SECTION 1 - Introduction:</b> Background, Problem, Main and Specific Objectives, Scope, Justification</li><li>▪ <b>SECTION 2 - Literature review:</b> Historical perspective, conceptual perspective, contextual perspective</li><li>▪ <b>SECTION 3 - Methodology:</b> Research method, data collection, design, development/implementation</li><li>▪ <b>SECTION 4 - Workplan &amp; Budget:</b> Present a well-organized workplan showing weekly milestones that will lead to the completion of the project before the <u>28<sup>th</sup> of February 2026</u>. Please note that project defense and final presentations will be held in the <u>first week of March 2026</u>. Therefore, your workplan should clearly indicate how you will work towards</li></ul></li></ul></li></ul>	40 %

	<p>deadline with measurable outputs every week.</p> <ul style="list-style-type: none"> <li>✓ Referencing; use APA reference style</li> <li>✓ Appendix 1: In the Appendix, clearly indicate the contribution of each group member to the development of the project proposal and</li> <li>• <b>NOTE:</b> BSc Computer Science; BSc Data Science &amp; Analytics students <b>MUST</b> use LaTeX to typeset the proposal document.</li> </ul>	
2	<p><b>MILESTONE TWO (Proposed project Prototype):</b></p> <p>You are required to demonstrate a proof of concept for your project using a 20% functional prototype. The prototype code should be hosted on GITHUB and a link submitted. A working demo should be available for presentation during the poster presentation.</p> <p>-----</p> <p>A prototype is a preliminary version or model of something – such as a product, system, or concept – that is built to test, demonstrate, or refine ideas before full-scale development or production.</p> <p>Based on the type of project you have proposed, a prototype may be of the following form:</p> <ol style="list-style-type: none"> <li>1. <b>Product Design</b> : A prototype is a working model (or a simulation of a working model) of a product (like a machine, device, app or software) that demonstrates how it will function. The prototype should have some limited functionality.</li> <li>2. <b>AI and Machine Learning:</b> a prototype model could be an early version of a predictive model (or any other models) built to check feasibility before full optimization.</li> <li>3. <b>Data Science/Data product:</b> The prototype should aim to test the proposed concept, Evaluate whether your data and features are suitable for the task, Try out different models or algorithms before selecting one, Demonstrate your methodology and initial results. Expected outputs may include             <ol style="list-style-type: none"> <li>i) A <b>cleaned and preprocessed dataset</b> (a subset of the full data)</li> <li>ii) An <b>exploratory data analysis (EDA)</b> notebook and data pipelines</li> <li>iii) A <b>baseline model</b> (e.g., linear regression, decision tree, or</li> </ol> </li> </ol>	30 %

	<p>random forest)</p> <p>iv) <b>Evaluation metrics</b> (e.g., accuracy, RMSE, F1-score)</p> <p>v) Possibly a simple visualization dashboard or API showing predictions</p> <p>Candidate should demonstrate achievement of at least 20% of the proposed project objective functionality on the day of proposal/poster presentation.</p>	
3	<p><b>MILESTONE THREE - Dissemination [<i>Poster Presentation and project prototype demo</i>]</b></p> <p>Every team will be required to prepare and print a scientific poster of their proposed project (on A2 or A1 paper) for presentation to the public. Every team member is expected to be available on the presentation day.</p> <ul style="list-style-type: none"> <li>• The presentation will be evaluated according to the following; <ul style="list-style-type: none"> <li>✓ How well candidates articulate the problem, the proposed solution and justification to the general audience.</li> <li>✓ How well the candidates align the reviewed literature/ existing solutions to the proposed solution highlighting the group unique contribution.</li> <li>✓ How well the proposed solution aligns with the National development plan as well as the sustainable development goals.</li> <li>✓ Assessment of the functionality of the prototype demonstrated during the presentation</li> <li>✓ Candidates' ability to defend their work during the Question-and-answer session throughout the duration of the poster presentation <u>without discriminating</u> the audience.</li> </ul> </li> </ul>	30 %
	<b>TOTAL MARKS</b>	<b>100 %</b>

**~END OF EXAM GUIDELINES~**