



**MALAWI UNIVERSITY OF BUSINESS AND APPLIED SCIENCES
SCHOOL OF EDUCATION , COMMUNICATION AND MEDIA STUDIES**

DEPARTMENT OF APPLIED EDUCATION

Bachelor of Education (Business and Computer Studies) - Year 2

PROGRAMMING 1- CIS-PRG-211

GROUP PROJECT

INSTRUCTIONS

1. This assignment is to be completed in groups of not more than 5 students.
2. Any form of plagiarism shall result in a zero grade.
3. Ensure that all principles of modular programming are adhered to.
4. To enable us to practice concepts covered this semester, please use only the following concepts : loops , structures and arrays, file handling.

BACKGROUND

The Malawi National Examinations Board (MANEB) is responsible for the administration of Malawi School Certificate of Examination(MSCE). You have been provided with a database of the performance of various schools on MSCE from 2017 to 2026. The database contains the following attributes:

- **student_id** , unique identifier for a student within a school.
- **school_id** , unique identifier for school/MANEB center.
- **school_name**, Name of the school/Maneb Center.
- **district**, name of district.
- **region**,
- **year**,
- **subject**,
- **score**, the student's score on the subject
- **grade_letter**, letter grade for the score.(A-F)
- **grade_numeric**, numeric grade for the score(1-9)
- **points**, ignore this field.
- **gender** , M for Male and F for Female.
- **candidate_type**, INTERNAL and EXTERNAL

REQUIRED

You have been hired by MANEB to analyze the MSCE performance dataset. Design and develop a menu driven program in C++ that implements the following features:

- a) Search student grades by student_id and year. The results can be exported to an excel file.
- b) Perform Trend Analysis:
 - Yearly Pass Rate Trend.
 - Subject Performance Over Time.
 - District Performance Over Time.
- c) Perform Pass Rate Analysis.

- Pass Rate Per Subject.
- Pass Rate Per District.
- Pass Rate Per School.

d) Ranking metrics.

- Worst Performing Districts.
- Hardest Subjects.

ASSESSMENT MODE

a) Presentation (70%)

Each group will present working system, demonstrating the features listed above.

b) User Manual(30%)

Each group will submit a user manual for the system. The user manual should include screenshots where necessary.

DUE DATE

All artifacts of this assignment must be submitted no later than **24th of April 2026, 23:59:59 C.A.T**