# Introduction

Belgium campus (BC) has recently opened a campus at Stellenbosch. BC has hired you to be its lead software developer. The campus seeks to have a student management system which will be able to register and display all students that are on the satellite campus on demand by management. The information that is required when a student is registering is as follows:

* **Student ID**
* **Student Name**
* **Surname**
* **Gender**
* **Email address**
* **DOB**
* **phone number**
* **Qualification (Degree or Diploma)**

The new campus is running a registration promotion for any student who will register and be above 25 years of age. If the student is female they will get a 30% discount on their total fees and if male they will receive a 19% discount. The fee for Degree is R85000 whilst for Diploma is R45000 respectively.

The system should display any form of notification if the student gets the promotion listed above and details of all registered students.

Miss Anila the head of Program DevOps in the IT department has divided the task into two segments that are **Milestone 1** and **Milestone 2**

# Outline

**Milestone 1**

You are asked to design the system using OOP principles. You have created a flexible and extensible architecture that can easily accommodate future changes and enhancements. The system must be built using Object-Oriented Programming (OOP) principles to provide a modular, extensible, and scalable architecture.

In milestone one present your software system design in the form of a report. Software system design refers to the process of designing the architecture, components, modules, interfaces, and data for a software system to meet specified requirements. The design process involves identifying the different functional and non-functional requirements of the system, analyzing and decomposing them into smaller modules, and defining how the modules will interact with each other.

Ensure the following must be included in the proposed software system design but should not be a limitation to adding more features.

* Key classes and objects
* Object-Oriented Programming (OOP) principles
* Class members
* Comments

The report must include a justification for every choice of OOP principles and class members in your software system design.

You may add the software system design screenshot in your report.

**Due Date Milestone 1 (Report submission):**

**2023-05-08**

**Total: 25 Marks**

**Milestone 2**

In milestone 2 the actual system is to be developed using the C# console application. Ensure the system must be built using Object-Oriented Programming (OOP) principles to provide a modular, extensible, and scalable architecture.

**Due Date Milestone 2 (C# application):**

**2023-05-13**

**Total: 25 Marks**

# Mark Allocation

|  |  |
| --- | --- |
| Content | |
| Milestone 1 | 25 |
| Well organized report | 5 |
| Well-organized software design | 10 |
| Justification | 10 |
| Milestone2 | 25 |
| The application can read and store information in the system | 4 |
| Calculation | 3 |
| Decision-making and condition checking | 3 |
| Display | 4 |
| Implementation of comments | 3 |
| Proper communication between classes | 3 |
| Proper use of OOP principles | 3 |
| Overall functionality | 2 |
|  |  |
| Total | 50 |

Additional Information

* All work must be original. Copying or reproducing someone’s work will not be tolerated.
* The document must be in **PDF** or **DOCX** format, no other formats will be accepted.
* Practical work submits in a .zip format.
* The allocation of marks may be subject to change during the marking process.
* Late submissions will not be accepted; missing the deadline is an automatic 0.