# Project

## Introduction

The Project designated to this module will stretch across the entire timeframe of the subject. The topics that will be tested in these milestones will cover a wide range of outcomes including, but not limited to the following:

* File Handling
* OOP Concepts
* ADO.Net

## Outline

You have been contracted by a Belgium Campus to create an application that will be responsible for managing student information for the campus. The end product must be a fully functional **Windows Based application** that will capture details of students and details of the courses that the students do and store them in an **SQL Relational Database.**

Your application must comprise of the following:

1. Your **Windows Forms** GUI
2. **CRUD** functions that will be necessary to implement a persistent storage application: **Create, Read, Update and Delete**
3. **ADO.Net** and **SQL** Database

# Requirements from client

1. You need to create an initial menu for the Data Capturer who will use this application. The Data Capturer should be presented with a Login Form which will require their Username and Password. All Usernames and Passwords must be stored on a text file [in any format of your choice]. The login should be verified and authenticated when a Data Capturer attempts to login. If a Data Capturer does not have a Username and Password, they should be able to register as a new user and their login details stored on the text file. Make sure all necessary validations are done for the Login Form.
2. Once the Data Capturer logs on the application, they should be presented with a Windows GUI to perform all **CRUD** **operations**. Utilize ADO.Net to achieve this. All information MUST be stored on a database using SQL Server.
3. When capturing student information, on **Create**, the application should capture the following student information to the database:

* Student Number
* Student Name and Surname
* Student Image (make sure you implement functionality for image upload on your system)
* DOB
* Gender
* Phone
* Address
* Course Code

1. On **Read**, make sure student information can be displayed in a ListView or DataGridView. **Update**, it must be possible to change student’s information. On **Delete**, it must be possible to delete a student’s information. The application must also have a **Search** functionality to search a particular student’s information using the Student’s ID.
2. When capturing course information, on **Create**, the application should capture the following module information to the database:

* Course Code [BIT, BCom, Dip]
* Course Name
* Course Description

1. The rest of the other **CRUD** operations must apply for displaying, updating, deleting and searching for a course to and from the database.

# Requirements

You are required to submit a working application that meets all requirements of the client as stated above. You will also present this project in class. Utilize the following technologies to archive this:

* SQL Server
* ADO.Net
* Microsoft Visual Studio
* Text File Handling

**Due date: 2023-05-26**

## Mark Allocation

|  |  |
| --- | --- |
| Criteria | Weight |
| SQL Queries | 10 |
| Classes/Interfaces | 5 |
| CRUD methods in classes | 15 |
| Windows Form Design | 5 |
| FileHandling | 10 |
| Exception Handling | 5 |
| Total | **[50]** |

## Additional Information

* This is a group project.
* Belgium Campus consists of software that can **scan for plagiarism** and a student caught doing this will get 0 for this Project.
* No Project will be marked if not submitted on time. It will be considered as missing a deadline.
* Late Project will not be accepted.
* Missing the deadline is an automatic 0.
* All group members need to upload.
* A list of group members need to be attached to your upload.
* Groups can be between 2-4 Members.
* You cannot do this project alone.