# CSU 34041 Project Specification

***Deadline: 12 noon, 22nd March 2022***

The CSU 34041 project is to develop an ER Model for information to be represented for an application of your OWN choice[1] and implement it as a MySQL database. The project submission will be a report which describes the database application, presents the ER Model of the database, indicate how this ER model is mapped to a relational schema, give the Functional Dependency Model for each of the relations in the database indicating primary & foreign keys, explain and give the SQL code needed to implement the database and shows how it would be used. The project will create the database as a MySQL database. The database ***must have the following features***:

- A minimum of 6 relational tables
- Appropriate implicit and constraints (including primary & foreign keys)
- Explicit (semantic) constraints such as table constraint(s) and triggers (you need not implement assertions)
- At least one view should also be defined within the database
- A minimum of 5 tuples per table
- Your Project report must have a listing of the SQL commands which create the tables, populate these tables, any security commands used,
- **Additional marks** will be awarded for innovation and degree of difficulty (in use of SQL) and the use of advanced features of SQL/PL e.g. use of variables in SQL/PL, embedded programmes etc.
- You are required to implement the database using MySQL, which is available on college lab computers or downloadable on your own machines.

The Project will be submitted as a report (see example table of contents below) as a PDF file and a file containing you SQL code. Submission will be via a Project Submission link which will be made available via the Blackboard Course site at least two weeks before the project deadline.

**Deadline for submission of Project is: 12 noon on March 22nd 2021**

[1] You may NOT use (as you database) any database examples which was given in class or is from any book, Website or 3rd party source. The database must all be your own work.

# Structure of Project Report

The report should consist of two files. The first should be a PDF file containing Section A and Section B below. The second file should be a .sql file which contains a listing of your SQL code (script) exported from your MySQL database.

## Contents of Project Report

### Section A: Description of Database Application area and ER Model

1. Application Description .....
2. Entity Relationship Diagram.....
3. Mapping to Relational Schema .....
4. Functional Dependency Diagrams (for proposed relations) .....

### Section B Explanation of data and SQL Code:

5. Explanation of one the SQL Code for Creating one of your database Tables (including any constraints).....
6. Explanation and SQL Code for any Altering tables .....
7. Explanation and SQL Code for any Trigger operations.....
8. Explanation and SQL Code for and Creation of Views.....
9. Explanation and SQL Code for one of your commands to Populate a Tables.....
10. Explanation and example SQL Code for retrieving information from the database (including any use of Joins and use of functions).....
11. Explanation and SQL Code for any Security commands (roles & permissions).....
12. Explanation of and Additional SQL Features of your choice .....

### Section C Listing of your SQL Code for the database

*(Note Section C should be submitted as a separate file which is a listing of your SQL script from MySQL)*