

## CSU 44D01 Project Specification

***Deadline: 12 noon, 18<sup>th</sup> Nov. 2022***

The CSU 44D01 project is to develop an ER Model for information to be represented for an application of your OWN choice 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,
- **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.

Project will be submitted as a report (see example table of contents below) as a PDF file. 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 Nov 18<sup>th</sup> 2022**

## Examples Table of Contents for the Project Report

### Contents of Project Report

|  |  |
|--|--|
| 1. Application Description .....   |  |
| 2. Entity Relationship Diagram.....  |  |
| 3. Mapping to Relational Schema (explaining mapping rules used for each table).....                                    |  |
| 4. Functional Dependency Diagrams (for proposed relations) .....   |  |
| <i>Explanations of data and SQL Code:</i>  |  |
| 5. Explanation and SQL Code for Creating the database Tables (including any constraints).....                          |  |
| 6. Explanation and SQL Code for Altering tables .....  |  |
| 7. Explanation and SQL Code for Triggering operations.....   |  |
| 8. Explanation and SQL Code for Creating Views .....   |  |
| 9. Explanation and SQL Code for Populating the Tables.....   |  |
| 10. Explanation and SQL Code for retrieving information from the database (including Joins and use of functions) ..... |  |
| 11. Explanation and SQL Code for Triggers .....  |  |
| 12. Explanation and SQL Code for Security (roles & permissions).....   |  |
| 13. Explanation of Additional SQL Features of your choice .....  |  |