Guidelines for the Final Project

Teams: You may work independently or in a group. Coordinating group activity would be up to you since this is an online class. If you choose to work in a group, for each step, every group member must have an equal part in order for that individual to get full credit. You will also need to assign a team leader who should be someone organized who will submit the work before each deadline. That individual will also submit the names of the students who contributed to the project (for each deadline). If you do not participate with your group you will receive a 0.   If the team leader is not contributing it is the job of the team to let me know.

Late assignments will not be accepted.

Homework for Project	Deadline	Points
Project Title, Project Summary	Feb 21	5
ER Diagram	Mar 7	15
Relational Database Schema & Normalization	Mar 28	15
Database Implementation & Web Application	May 2	65
TOTAL		*100*

Part I. Project Title, Project Summary (Due Feb 21)
   Please email me the following:
     1. Project Title
     2. Project Description (*a couple of paragraphs describing your project title in more detail)*
     3. Group Members – If you choose to work in a group please email me the names of all group members (CC them as well) and the name of the team leader. *(Note: You cannot have more than 3 people)*

Sample topic ideas (Feel free to choose your own!):

1. Matchmaking Database - Database of friends – match them up by interests, age, etc.
4. Library DB - Search collections, check status, checkout, etc.
5. Job postings DB - Openings, contacts, references, requirements, etc.

Your database should use approximately 4 tables at the end of the project.

Part II. ER Diagram (Due Mar 7)

Use the Entity-Relationship Model for the conceptual design of your database. Your diagram should depict entities, relationships, multiplicity, etc.

You do **not** have to do an Enhanced ER diagram – ONLY what we learned with a regular ER Diagram.

Note: You should have approximately 4 entities.

Submission: Submit the following to the folder titled Project: ER Diagram on the D2L Assignments tab:

1. ER Diagram
2. A few paragraphs explaining the ER Diagram.
3. If you are in a group, include a file stating which people in the group contributed to this part of the assignment. If a student does not contribute to this part of the assignment, that student will receive a 0. If a student contributes much less than the other students in the group, points will be deducted accordingly.

Part III. Relational Schema and Normalization (Due Mar 28)

Submission: Submit the following to the folder titled Project: Relational Schema and Normalization on the D2L Assignments tab:

1. Derive a relational database schema based on your ER diagram where each relation or table has the below form: (NOTE: To receive full credit it must be in the below format.)

Relation-name(attr1, attr2, …, attrn)

Where *Relation-name* is the table name and attr1 represents the first attribute (column). You should indicate both primary and foreign keys.

Example:

Registration(studentId, courseNo)

Student(studentId, lastName, firstName)

Course(courseNo, courseName)

The underscore above indicates a primary key (or composite primary key if more than one is underlined), and you can just state which attribute or attributes are foreign keys and which table they reference. In the above case, courseNo in table Registration is a foreign key to courseNo in the Course table, and studentId in the table Registration is a foreign key to studentId in the table Student.

2. Please provide a one sentence description for each table stating its purpose.

3. **Normalization** – Look for any violations of 1NF, 2NF, and 3NF and modify your relational schema (if necessary) to normalize it. List the functional dependencies and which normal form was violated. List your new relational-schema (if it changed)

and provide a discussion as to the methods used to get the new tables/relations, as well as the reason for any **denormalization**.

4. If you are in a group, include a file stating which people in the group contributed to this part of the assignment. If a student does not contribute to this part of the assignment, that student will receive a 0. If a student contributes much less than the other students in the group, points will be deducted accordingly.

Part IV.   Database Implementation and Web Application (Due May 2)

Database Implementation:

Implement the approved design for the database system using your Database Management System. Keep a copy of your sql code in a separate file for submission. NOTE: If working in a group, every group member must do some kind of coding.

Connect to your Database from a Web Application:

Create a simple webpage to connect to your database.
The application should allow users to both insert items into the database and retrieve items from your from your database. Make it user-friendly and look professional. Inserting into the database should allow the user to enter values of their choice for the attributes. Take screenshots of it working (you will need to submit the output too and a working URL).

CheckList:
1. You must have an SQL file which shows SQL statements that you wrote to create tables, insert into them, etc.
2. You must have approximately 4 tables created with primary keys for each table and foreign keys as appropriate.
3. Two of those 4 tables must have at least 10 rows in them (you can use a CSV file to import it).
4. You must have at least one view.
5. You must use at least one join somewhere.
6. You must have at least one PHP file to interact with the database.
7. You will need screenshots of your website working (or a short video) in addition to submitting a URL.

Submission #1Virtual Presentation

While we will not have an actual presentation, please submit the URL to the D2L discussion board so your classmates' can see what you have done. Attach a screenshot of

the tables you created, views, and a description.   Furthermore, you are required to comment on 2 of your classmate's posts.

Submission #2 via D2L Assignment Folder: Please submit the following in a zip file via the folder titled Final Project in the D2L Assignment tab:

1) Screenshots of any tables/rows/views in the database.
2) Copy of all SQL statements which created / inserted them.
3) Copy of any CSV files used.
4) Modified Project Summary – A couple of paragraphs describing the project.
5) PHP file(s)
6) Screenshots of the Web application working (or a quick video)
7) URL
8) For groups, everyone will also need to email me a contribution file, see below:

Submission #3 (only for groups) via Email:

If you are in a group, **EVERYONE** IN THE GROUP must **email** me a file stating which people in the group contributed to the entire project and specify exactly what everyone's contribution was throughout the project. If a student does not contribute, the student will receive a 0. If a student contributes much less than the other students in the group, points will be deducted accordingly.