

Assignment Brief

Submission Deadline

Before 10am on:

07/05/2022



Feedback

Marks and Feedback

15 working days after deadline (L6)

10 working days after deadline (block delivery)

20/05/2022



Assignment Submission

Key assignment details

Unit title & code	CIS108-6 Data Modelling, Management and Governance
Assignment number and title	Report
Assignment type	Report (design) and implementation
Weighting of assignment	100%
Size or length of assessment	5000 words
Unit learning outcomes	<ol style="list-style-type: none">1. Exhibit a balanced and systematic understanding and knowledge of data modelling and management theory and data governance practice (including querying languages).2. Apply knowledge of data modelling and management concepts to design, develop and critically evaluate an information system within a chosen field of interest



Completing your assignment

What am I required to do in this assignment?

This assessment is an individual assignment.

You are required to design (use-case diagram and Entity Relationship Model (ERM) a database solution for a sports club record system.

The sports club scenario

You have been employed as a database designer to design and implement a new membership record system that is capable of storing information about members, sports club staff and sports activity bookings.

Each sports club member needs to have a unique member reference number, as well as storing first name, surname, address, telephone number, email address and date of birth and any medical conditions.

Each sports club staff member has a unique staff number, first name, surname, role and a contact number.

Each member can book up to **five** sports classes per week. Each sports class has a unique class code, title, day and time of delivery.

The system should allow an instructor (sports club staff member) to search for the activities running on a particular day. Each member can only **sign up for one sports during any two-hour time slot (9am-5pm)** and no activities that overlap can be booked concurrently.

Sports club staff members and staff can check and update their personal details, sports centre staff can record attendance for a class they are teaching, and each member can view their daily or weekly activity bookings.

As part of this assignment, you must produce and hand-in the following:

1. A use-case diagram that identifies the key actors and use-cases in the system, as well as clearly displaying which use cases each actor has access to.
2. An Entity Relationship Model (ERM) that outlines the database structure required to implement the new sports club record system. Your database should be called 'Sports Club Management System'.
3. SQL statements used to create each of the tables in the database
4. Three SQL queries:
 - a. one that shows how a sports club member can view their current bookings;
 - b. one that displays the current weekly activities for the sports club.
 - c. Show most active members monthly (most bookings and most attendance)

As part of your report you should explain your design process and decisions, and identify any issues or challenges that you faced in each step. A single report containing items 1-4, plus your design decisions and challenges should be submitted online via the Assessment and Feedback area.

What do I need to do to pass? (Threshold Expectations from UIF)

1. Provide a UML use case diagram and ERM diagram that accurately represents entities and relations for the scenario given
2. Create the relevant database tables with sufficient attributes name, type and domain using appropriate SQL commands
3. Provide three well-formed SQL queries to allow the database to be queried

How do I produce high quality work that merits a good grade?

1. Evidently demonstrated you have sufficient knowledge of system design process, methodology and use of necessary tools.
2. Requirement's analysis: identify proper use cases. Provide reasonable UML use case diagram to reflect your understanding of the given scenario, a supplementary use case document may be provided
3. Provide an Entity Relationship model that accurately reflects the scenario and that captures appropriate attributes and correctly identifies relationship cardinality (e.g., 1-to-1; 1-to-Many or Many-to-Many). A supplementary annotation may be provided to explain your design rationality.
4. Define appropriate primary and foreign keys for the relevant tables, a relation scheme diagram may be provided to show all the tables and relations between tables in your system. Justify and analyse the design decisions that you have made.
5. Structure your report with a clear table of contents, including section numbers and page numbers, correctly formatted tables, figures with captions, whole report should have no spelling errors or grammatical mistakes.
6. Extra marks will be awarded to any creative idea, constrictive analysis and evidently demonstrate the report beyond the requiments listed in this section but towards more professional practice in the industry such as "system tech design report, implementation report, testing report and operation manual (typical usage) etc."

How does this assignment relate to what we are doing in scheduled sessions?

This assignment brings together database design (use-case, requirements specification, Entity Relationship Modelling) and implementation (tables creation, primary and foreign key assignment) and testing through use of SQL queries.



Marks and Feedback

How will my assignment be marked?

Your assignment will be marked according to the threshold expectations and the criteria on the following page.

You can use them to evaluate your own work and consider your grade before you submit.

	Pass – 40-49%	Pass – 50-59%	Commendation – 60-69%	Distinction – 70%+
1	Provide a UML use case diagrams, but the diagram has some wrong syntaxes or wrong use cases	Provide a UML use case diagrams, but the diagram only has couple of wrong syntaxes.	Provide a UML use case diagrams, all diagram syntaxes are correct, the diagram fully reflected the analysis results without any misunderstandings	Provide a syntactically and semantically correct use-case diagram with clear discussion/justification of how it meets the needs to the assignment scenario.
2	A ERM model diagram has been provided but with some wrong syntaxes or wrong elements or attributes or relations according to the scenario analysis	A ERM model diagram has been provided but with only couple of wrong syntaxes or wrong elements or attributes or relations according to the scenario analysis	A ERM model diagram has been provided with no obviously faults and the model truly reflect the scenario requirements	An ERM which is closely linked and to and allows the implementation of the use-case diagrams that were part of the requirements analysis stage. All attributes and relationships are correctly defined, and there is no redundancy or repetition in the ERM.
3	Database system has been selected with a partial implementation	Database system has been selected with good reason and a partial implementation	Database system has been selected with good reason and full implementation	Database system has been set up with appropriate primary and foreign keys in place, and is an accurate reflection of the ERM.
4	The report contains all required elements, but structure, language and	The report contains all required elements, structure and discussions are	The report contains all required elements, the analysis discussions are in	A professional report which addresses all aspects of the assignment. The report is

	<p>diagram styles need to be improved for understandability.</p> <p>The report fits to the size limitations.</p>	<p>reasonably well and understandable.</p> <p>The report fits to the size limitations.</p>	<p>depth with fully explanations on diagrams and database design process.</p> <p>The report fits to the size limitations.</p>	<p>logically structure with a clear table of contents, page numbers and high levels of analysis and criticality.</p>
5	<p>All elements include supplementary are at present</p>	<p>1 or 2 reasonable analyses lead to design decision as consequence</p>	<p>Some throughfall analyses lead to creative design ideas</p>	<p>Report is in high quality and clearly demonstrate student extend knowledge beyond the requirements of the unit and gain significant knowl3dge from resources pointed on class</p>