Assignment / Assessment Specification

Module

Title	Lecturer	Class group
Databases 2	Patricia O'Byrne	TU856/3, TU857/3, TU858/3

Assignment

Name	Worth: 10% of module	Due date/time
ERD		Week 8 Tuesday midnight
Submission mechanism *(Only submit through mechanisms listed here – other submissions will be ignored)*	Individual	**Late submission penalty** 10% per day for 1 week. No submissions allowed after that.

ERD(4 marks) You are assigned a case study with a description and a .xlsx containing data that could be used in your system. The .xlsx also contains a sheet describing the attributes that are present. Develop an ERD using all the methods at your disposal; top-down, using the description, and normalization, using the excel spreadsheet.

1. Create tables in your schema – note: you can import data from excel into a table in your schema.
2. 'Normalize' them into tables that you think should be there. You may need to add some attributes.
3. Generate a data model using SQL Data Modeler.
4. Using 'view details', choose 'columns only' to make your diagram more readable.
5. Select all, right click and change format. Make the background white and change font size to 12.
6. Print the diagram to a picture.

Submit a word document, with the picture embedded in it. Explain your diagram. You will be asked to demonstrate this by sharing your screen.

SQL (4 marks) Write SQL in your schema to demonstrate your understanding of

- set operation A – B, A ∩ B, A U B, A xor B , A - ¬A and relational divide.
- Inner join, Left join and Full join
- Aggregation (including HAVING)
- Correlated sub-queries (not a relational divide).

Submit your SQL. You will need to run it for demo purposes. You are expected to provide adequate data so that all your queries are sensible and return adequate values.

PROGRAMMED TRANSACTION (2 marks): Write a PL/SQL program with input and output parameters to run a transaction to **change** the data in the database and leave it in a consistent state. It should include decision-making and error checking.

Submission:

1. Submit all code that you have written.
2. You will be asked to demo your code, most probably during a lab session. STUDENTS WHO DO NOT DEMONSTRATE THEIR WORK WILL NOT BE MARKED.