Data Modelling Assignment

All submissions are through MyLO.
The marking rubric is available on MyLO. You should read the rubric before submitting your assignment.

This assignment will take a lot of time. You have 5 weeks to complete the work, but you need to start early.

Task

You have been presented with the case study below. You need to turn this into a MySQL database. These are the requirements:

1. Read the case study and develop an Entity-Relationship Diagram using the conventions for this unit. This diagram needs to describe all of the business rules in the case study.
2. Using this unit's Entity-Relationship to Relational Schema Algorithm, convert your Entity-Relationship Diagram into a relational schema.
3. Using MySQL create the database based upon your relational schema.
4. Enter two records into each of the relations that you have created in your MySQL database. One of the records MUST contain your name.
5. Correctly and appropriately comment your code so that it can be maintained by your client.
6. If you are stuck at any stage – speak to your tutor or email your Unit Coordinator: sn.tran@utas.edu.au ask for help.

Submission Requirements

1. In a Word Document or PDF, submit your Entity-Relationship Diagram and relational schema INCLUDING all of the steps involved in the conversion algorithm to MyLO. Using Visio is recommended for the E-R Diagram, but any diagramming package, or a hand-drawn diagram included as an image in your Word Document or PDF is acceptable.
2. In a separate text document, submit your file called Assignment.sql to MyLO in which you have recorded all of the MySQL code to create and populate your database.

The ICT department of the Orange University is growing fast with more students and academic staff. This means a new data management system needs to be built to make the operations more effective. You are tasked to design a database using the information provided by the department as follows.

The ICT discipline provides different types of courses for both local and international students. Some students who want a fast track can attend the source courses: Artificial Intelligence, Data Science, Computer Vision, Natural Language Processing, Data Management; each takes only 3 weeks. There are two undergraduate courses which normally attract most students, especially local students, where they can choose to graduate with a bachelor degree or an honour degree. Students who want to study higher can choose the master course which is booming recently with loads of applications thanks to the demand in the job markets. A student when attending the university will enrol in

either one of the undergraduate courses or a master course, but at the same time they can attend up to 3 short courses. There is an exception for PhD students whose main responsibility is research as they cannot attend undergraduate and master courses but they can also attend at most one short course. All the courses are taught by some of the lecturers, senior lecturers, associate professors, and professors in the discipline. They are academic staff who are responsible for delivering lectures, preparing and marking exams. The tutorials are mainly covered by casual staff, called tutors, but sometimes PhD students and lecturers can also participate in tutoring. Besides teaching and tutoring (for lecturers) academic staff also need to supervise PhD students to work on their research topics. One PhD student can have 2 or 3 supervisors.
Many people in the department like sports and socialising so they form different clubs only for staff and students. Each club has a name, open date, and belong either to one of four categories: Outdoor sport, Indoor sport, Health & Wellness, Science. Each club has a head member who is responsible to organise the activities of the club.

Currently, in the discipline data is stored in paper forms. When a student enrols in a course, they will use the Student Enrolment form as below. For teaching and tutoring, when a staff or a PhD student is assigned a task, they will need to use the Teaching/Tutoring/Supervising form. This form can also be used by academic staff to put in the information of PhD student that they supervise. They can either use Section 2 and 3 of this form at the same time if needed, or they can use either of those sections for teaching, tutoring or supervising tasks. There are no paper forms for clubs.

Student Enrolment Form

1. STUDENT DETAILS	
Student Name	
Preferred Name	
Date of Birth	
Student Number	
Gender	☐ Male ☐ Female ☐ Other (Single choice)
International student?	☐ Yes ☐ No (Single choice)
Contact Number	
2. COURSE INFORMATION	
Main Course	(If PhD students write down PhD)
Short course 01	
Short course 02	
Short course 03	
3. SUPERVISION (PHD STUDENTS ONLY)	
Research Topic	
1st Supervisor	

2nd Supervisor	
3rd Supervisor	

Teaching/Tutoring/Supervising Information Form

1. STAFF DETAILS	
Staff Name	
Position	☐ Professor ☐ Associate Professor ☐ Senior Lecturer ☐ Lecturer ☐ Tutor ☐ PhD student (Single choice)
Staff ID (student ID for PhD)	
Gender	☐ Male ☐ Female ☐ Other (Single choice)
Contact Number	
2. COURSE INFORMATION	
Course code	
Course name	
Role	☐ Teaching ☐ Tutoring (Multiple choice)
3. SUPERVISION (FOR ACADEMIC STAFFS)	
Student ID	
Role	☐ 1st supervisor ☐ 2nd supervisor ☐ 3rd supervisor (Single choice)
Starting date	
Expected end date	