There are two assessments for this module. One is an assignment coursework, and one is an end of semester examination. The assessments are weighted 20% for the coursework assignment and 80% for the examination.

The coursework is broken down into

a. Laboratories (10%)
b. Assignment; Design and build a database (10%)

This specification is concerned with the coursework assignment which is assessed in a laboratory session.

The Database assignment is marked in week 10. The marking will take place in the laboratory session of week 10, when you can demonstrate your database working.

1. Coursework Due dates

The laboratory sessions start in week 2.
The Database assignment and is assessed in the laboratory session in week 10.

Paired Programming.
You may undertake this assignment in pairs. If you do so, please e-mail Dr Chris Adetunji, to say what pair you are in.

2. Assignment outline

The assignment requires you to design and implement a database. It is very much a part of software engineering and should be approached as such, reinforcing the skills you learnt in the first year.

The assignment requires:

a) An Entity Relationship Diagram (ERD). Informal feedback is given in the lab session in week 5 and feedback given immediately. Note that no work will be accepted or feedback given after the end of the laboratory session. Also note that the effectiveness of this diagram will reflect in your database implementation as will be marked in no. 5 below

b) A database implementation of the ERD based upon the feedback received. The complete assignment presented in the laboratory session in week 10.

The subject matter for the assignment is the following case study.

3. Assignment Submission

The complete assignment comprises

1. A working database on linuxproj;
2. SQL code to create your database
Please note the University regulations regarding academic integrity.

4. Assignment: Case study


A World Championship event is for a given class of boat (for example, Marblehead) at a specified venue (for example, Limone Sul Garda, Italy). An event is organised by a club (for example, North West Garda Sailing) which is a member of its national association (for example, Modelvela Italia, ITA) and usually takes place over several days, typically one week.

Individual competitors are entered by their national association in advance (usually 90 days before the event). Each member national association has a quota for the number of competitors it can enter, and IRSA itself can enter up to 4 guest competitors. The quota is an elaborate algorithm given in the “IRSA Championship Regulations” which can be found on the IRSA Web site (https://www.radiosailing.org/documents/category/230-administration). A fee is charged for each competitor, varying between 100 and 500 GBP. The total number of competitors to an event is limited to an absolute maximum of 84, but some events may impose lower numbers of entrants. There is a need to maintain a ‘reserve list’ or ‘waiting list’ of entries.

In entering an event, a competitor usually specifies the boat they intend to sail. Every boat has a design name (for example, “Britpop”) and a registration number, and the event organiser will check with the national authority that the boat has a valid registration.

Both historical data and prospective data for World Championships are required. IRSA requires a Web-enabled database of its World Championship events for its classes, past, present, and future. Users might want, for example, the results of the last Ten Rater WC, the date and venue of the next Marblehead WC, the list of events won by Grad Gibson, the events where the “Britpop” design was entered, the number of events hosted by Italy (ITA) since 1998, the events where ITA sent fewer than 3 competitors, whether the boat with registration “GBR3204” sailed in any event, and so on.

5. Assignment marking scheme

a. SQL create and populate [4]

Create the tables identified in the case study (e.g., EVENTS, COMPETITORS, etc.) and add primary key field(s) and at least, two non-key fields that are relevant to the table. Use your model [see ERD in Section 2 (a) above] to create the tables (in Workbench). Code for the creation of every data entity provided. Use the INSERT statement to populate the tables with relevant data (Note the data type for each column of your tables)
(Do remember to save your scripts to file. You may need to have tried all of your scripts out before week 10 when they will be marked in the lab. If you have tried them out, all your tables will need to have been dropped before the lab in week 10 so that SQL CREATE and INSERT scripts will be executed again. Successful execution of your scripts will earn you the full mark on this section).

b. SQL Queries [4]

You will be required to run a number of queries as will be requested of you in the lab in week 10. For example, the date and venue of the next Marblehead championship, the list of events won by Grad Gibson, the events where the ‘Britpop’ design was entered, and/or to display the number of COMPETITORS registered for an EVENT. Save your scripts and practice with multiple SELECT statements ahead of time. Code for one amend of the data of a specified entity provided, related to case study, with correct syntax, table(s) and attributes. Also, code for one delete of the data of a specified entity provided, related to case study, with correct syntax, table(s) and attributes.

c. ER Diagram [2]

A presentation of not more than 2 minutes, explaining your ER diagram and the relationships and how you implemented the model in your database design.