

## COSC 344

### Assignment 1

The assignments for COSC344 are designed to be group assignments, aiming to

- 1) enhance the understanding of database technologies and practice database design through group discussion;
- 2) help you develop teamwork skills.

In this year, 17 teams have been created by **randomly** assigning members to teams. Each team has no more than 4 members. You can check the team you are in from Blackboard. Each team should have a team leader who is responsible to coordinate the group meetings, allocate tasks, and submit assignment report. The team leaders haven't been appointed yet. Please elect the leader by yourselves. This a good chance to develop leadership skills.

I have enabled several tools in Blackboard for collaboration including file exchange, blog, discussion board, task scheduling, and email within group. Use these tools to collaboratively work on the two assignments. In case there is any discrepancy on the claim of contributions, I will estimate the contributions made by each team member based on these tools. So please label what you have contributed.

To overcome the drawbacks of the traditional group assignment approach, we adopt a new model by combining the merits of both individual assignment and group assignment.

1. The tasks for each assignment should be fairly allocated to the team members. Each member must work on the tasks allocated to him/her independently before attending the group meetings.
2. It might happen that you finish the allocated tasks quickly, and would like to have a try to work on the tasks allocated to other members. **You can do it, but keep it just for yourself.** You can give comments on the work done by other members at the meetings, **but never give what you did to any other team member.** If a member simply takes what was done by other members, it is an academic misconduct.
3. The assignment report must contain a section named "Teamwork Summary", in which the work done by each member must be clearly stated. If any of you don't agree with the statement in the teamwork summary, you can report to me personally.
4. Members in the same team may receive different scores. For example, a member may receive less marks if he/she didn't complete the allocated tasks in time, didn't attend group meetings, contributed too less, etc.
5. If a member failed to complete the allocated tasks, this will not affect the marks for other members.

#### Due date for assignment 1

This assignment is worth 10% of your final mark. It is due at **4pm on August 3 (Tuesday)**.

Penalty applies for late submissions (10% per working day).

#### Description of Assignment 1

Select an application domain or mini-world that your team is interested in. It can be a hobby, a personal interest, or something similar. Pick something fun. The company and orders databases used in lectures and labs are not acceptable.

There is no need to model everything in the selected mini-world, but you should choose one with proper size so that **each team member can model at least two entity types and at least two relationship types**. In general the ER diagram should

- have at least one weak entity type;
- have at least one 1:1, 1:N and M:N relationship between entity types. In some cases, you may not have both 1:1 and 1:N relationships. That is acceptable as long as you have at least one M:N relationship and at least one either 1:1 or 1:N relationship;
- include attributes with several data types: integer and/or reals, character strings, etc.;
- have at least one *date* data type;
- have at least one derived attribute, and at least one composite attribute.

Write a description of the mini-world, list the entities and attributes, define the data type for each attribute, describe the relationship, and give the ER diagram. There is a sample attached. Please follow the structure given in the sample report to work on this assignment. Try to model a miniworld that has a big difference with the provided sample. If what you modeled is very similar to the sample, you will lose some marks. Please show some novelty in your design.

The ER diagram must be neat and well organised. Make sure you include the keys, cardinality of relationships, participation constraints, etc. If an entity type has multiple keys, you just need to show one of them in the ER diagram. You can use any tool (e.g. Dia, MS word, MS powerpoint, etc) to create the ER diagram.

### Teamwork Model

I suggest to take the following steps to work on this assignment. The dates in square brackets are the suggested due date for each step.

1. The team has a meeting to select the mini-world, determine the entities, relationships to be modelled. The team leader coordinates the allocation of the modelling tasks, and makes sure the task allocation is fair to every team member. [July 22]  
**Requirements:** each member should model at least two entity type together with its associated attributes, and at least two relationship. Each member must participate in each step. It is **not** acceptable that one models entities, one models attributes, one models relationships, and one works on drawing the ER diagram.
2. Each team member works on the assigned tasks independently. [July 26]
3. The team has another meeting to discuss the work done by each member. This is the chance you can get feedback from other team members. If there is any error on modelling, it should be corrected. Make sure all requirements are met. The team leader coordinates the task allocation for writing the assignment report, and make sure the allocation is fair to every member. [July 27]
4. Each member works on the allocated tasks to write report. [July 29]
5. The team works together to merge all sections of the report into one document, and share it with all members for final check. [August 2]
6. The team leader submits the assignment report. [August 3]

### Teamwork Summary

At the end of the report you should include a summary of the teamwork, showing whether each member has contributed equally, and which parts have been discussed at meetings, etc. You can add any comment on the teamwork in your team.

### Assignment submission

Submit a PDF or Word version of your assignment report via Blackboard.