# ISYS2120 Assignment 2 (Conceptual Model) - sem1, 2024

Due: Sunday 15 September, 11:59pm Sydney time
Value: 5% for group aspect, and also 5% for individual aspect
**Late work policy:** (from unit outline) Late submissions for assignments will incur a penalty of 5% of the maximum awardable marks for each day, or part-day, past the due date, up to a maximum of 7 days (as after this time, feedback on on-time submissions will be available, resulting in an unfair advantage if submissions after this time were accepted). After 7 days late submissions will not be accepted. Where special consideration is granted for these assessments, extensions of a maximum of 7 days will be permitted. After 7 days, reweighting of other relevant tasks will be applied.
**Summary** (but details further down are authoritative)
*Groups:* with 2 or 3 people from a single lab session, who all get the same mark from the group submission (except that if some member is considered to have not contributed reasonably, then the unit coordinator may reduce their score appropriately.)
*Provided for you:* a textual description about a domain.
*You produce:* as a group, a conceptual model for the data to be stored about the domain, expressed in an extended ER diagram. Also, each member as an individual produces: a description of how you checked the validity and completeness of (some version, perhaps preliminary, of) the group's conceptual model; and a statement of the process the group followed to produce its conceptual model.
*Submit* (as a group): a report with structure as described in detail below [submit on Canvas]
*Submit* (as an individual): a report with structure as described in detail below [submit on Canvas]

## Group Formation and Policy

This assignment is done in small groups of 2 or 3 students. We ask that all students in a group be coming to the same lab session, so you can work together more easily and the tutor can track what is happening. Groups are formed in week 4 lab session, but may be adjusted by tutor or coordinator when necessary (eg to include someone who was away in week 4). In most cases, two of the Asst2 groups are combined to a larger 3-5 person group, which is the basis for the weekly meetings with tutor.
*Procedure:* There will be a Canvas group for this assessment and the teaching team will allocate students as members in the appropriate group. If the group shown in Canvas doesn't match what you believe was agreed, email alan.fekete@sydney.edu.au urgently. If you are not in a Canvas group, email alan.fekete@sydney.edu.au urgently, because you will get no group aspect mark unless you are in a Canvas group.

If, during the course of the assignment work, there is a dispute among group members that you can't resolve, or that will impact your group's capacity to complete the task well, you need to inform the unit coordinator, alan.fekete@sydney.edu.au. Make sure that your email names the group, and is explicit about the difficulty; also make sure this email is copied to all the

members of the group. We need to know about problems in time to help fix them, so set early deadlines for group members, and deal with non-performance promptly (don't wait till a few days before the work is due, to complain that someone is not doing their share).

**The task**:
Produce an extended ER diagram, that captures a conceptual design for the information that needs to be kept in a system for system to keep information about assessments in the classes at the "University of Old Times", based on the textual description below. [The University is called that, because it insists that all students do assessments in handwriting on paper, without consulting any online sources; it also has no group assessments, only individual work.] If there are important constraints that you could not capture in the notation of the diagram, or places where the text was ambiguous and you would have needed extra information to choose the correct properties, you need to identify these (see the indication below about Part B of the report)

The system needs to keep a scan of every submission made by a student for an assessment task. A submission is handed in at a date and time which must be recorded, and it may have been awarded a mark by a staff member. The system needs to keep information for each student, including their studentkey (an identifier such as JS2X57), surname, given name, year-of-entry, major(s), official email, and address. Staff members are identified by staffed, and have surname, given name, title, department, official email, and contact phone number. Each assessment task occurs for an offering of a subject [for example, the offering of the subject Traditional Philosophy in sem1 of 2024], and the assessment task has a name (eg "Assignment 1"), a weight towards the grade in the offering, a kind (such as Essay, Quiz, ProblemSet, FinalExam), an instruction document, and a latest-date-for-submission. Some assessment tasks are non-repeatable; this means that a student may not submit for this more than once, and in that case, there is a mechanism for the student to request an exemption for illness (the system needs to track the text of the request, the date it was made, and whether or not this was approved). For an assessment which does allow multiple submissions, we need to keep information on a policy which decides how to calculate the overall score the student gets (for example, it may be that only the latest submission is marked, or that each submission is marked and the highest mark is used, or maybe the latest submission is marked but a penalty is subtracted based on the number of submissions made). For a subject, we need to know its name, the credit-hours it carries, the major(s) it counts towards [if any], and whether or not students are allowed to take it more than once. The same subject may be taught over several offerings and the assessment tasks will be different between these offerings (though they may share a name!). Each offering is taught by a staff member as coordinator, and possibly there are other staff as teachers as well. The staff are each members of a department, and every subject is under control of some department. A department may be responsible for a major (and indeed, some majors may be shared between departments, eg "Greek History" major is shared between Classics department and History department).
*Note: you may find this description lacks important details; requests for clarification should be posted on the unit Edstem discussion board, under the*

*posting category of Assignment 2, You should observe closely any answers posted by staff (not only to your own questions, but also to questions from others)*

**Weekly consultation meetings to show progress and get feedback**

Please note that during week 4 lab, your tutor will confirm a time/place for a 20-minute meeting with each group, for the following weeks; in most cases, where the group membership matches what was in asst1, the time is likely to be the same too.

Week 5 progress: at the time of your Week 5 meeting, each member should have read the instructions, and make sure that you understand what is expected.

Week 6 progress: by the time of your week 6 meeting, each subgroup should have a proposal for at least three entity sets, and some relationships between them; including proposals for the attributes of these entities, and constraints (such as primary keys, and any multiplicity aspects of the relationships chosen). Please have this design to show the tutor for feedback.

Week 7 progress: each subgroup should bring along the current ER diagram (which should be close to final by now), and each member should be prepared to explain the decisions involved.

**Submission (group)**

As a group, you must produce *a **report*** with the following two-part structure. The report can be produced with whatever document formatting approach you choose, but what is uploaded must be in **PDF**. One member of the group should upload this to the canvas submission link, before the due date.

The report should begin with a cover sheet, which follows the template we provide, and lists the members of the subgroup which produced this report.

Part A

An extended ER diagram that captures a conceptual data model for this domain. It is acceptable to have a single diagram, or to give a high-level diagram that omits the attributes, along with detailed diagrams for each entity and relationship, where the attributes are shown.

Part B

It's important to remember that real-world descriptions, like the one provided by us, often come with ambiguities or missing details, as the real world can be complex and open to interpretation. In your modeling process, you might encounter situations where the provided description doesn't explicitly state how something should be represented. In Part B, provide an explanation, of any aspects of the domain where your model (as presented in Part A) reflects a decision that was not given directly in the textual description. This includes aspects where staff clarified the intention on Edstem -- in such cases, Part B should refer to the Edstem thread on which you relied in the model. For example, if you decided to make some attribute multi-valued, when this wasn't stated for you, or if you chose an attribute to be a primary key when it was not already described as an identifier.

Also, discuss strengths and limitations of your conceptual model as a reflection of the domain. In particular, state explicitly any aspects or constraints of the

domain (as given in text or Edstem answers by staff) that are not captured in your conceptual model, and say why these were not in your model.

**Submission (individual)**
Each member must produce *a **report*** with the following three-part structure. The report can be produced with whatever document formatting approach you choose, but what is uploaded must be in **PDF**. You should upload this to the canvas submission link, before the due date.
The report should begin with a cover sheet, which follows the template we provide, and identifies the member who produced this report.
Part A
An extended ER diagram, which was checked by the member for validity. This need NOT be the final diagram submitted in the group report; indeed, it will most likely be a preliminary version which the group considered earlier in the design process. Note that there are NO marks here for the quality of the design here; this is just so the marker can check the statements made in Part B below.
Part B
A description of how the member checked the diagram in Part A. You should indicate which phrases from the textual description you checked, and what you found in the diagram that captures this (or does not fully capture it). Also indicate aspects of the diagram which you checked by seeing how the text expresses this, and whether or not it matches. Your discussion should include an overview of strengths and limitations of the conceptual model, and any suggestions you made for changes to the diagram, based on what you found in checking.
Part C
A description of the process the group followed to produce its conceptual model and report; this should state which member did what tasks and when, how the work was checked, how disagreements were resolved, etc. It ought to indicate what was effective and what was ineffective in the process, and suggest ways the process could be improved (these might be adopted by you in Asst3, and/or passed on to future classes when they do Asst2)

**How to submit your work**
There is a submission link in Canvas for the group's PDF report. The file can be uploaded by any member of the group, and all members should then see it as a submission they made. You can resubmit at any time up to the due date; we will mark the last submission before the due date. Once the work is marked, the mark will be shown.

There is a submission link in Canvas for you to upload the individual PDF report. You can resubmit at any time up to the due date; we will mark the last submission before the due date. Once the work is marked, the mark will be shown.

**Marking**
Marks will be posted in Canvas once marking is finished for the class.

Group report:

Part A is worth 3 points. This reflects how well the conceptual data model shown in the EER diagram, captures the described information and uses the notation correctly.
Part B is worth 2 points. The mark here is for how well the discussion identified aspects where ambiguity needed to be resolved, and of strengths and limitations of the conceptual model in relation to the text (eg cases where constraints could not be shown directly)

Individual report:
Part A is not marked
Part B is worth 3 points. This reflects how thoroughly and sensibly the report describes checks on the conceptual model shown in Part A; especially, whether the checks cover a wide variety of aspects of the domain and of the conceptual model, and whether the description reaches appropriate conclusions about the strengths or limitations of the conceptual model.
Part C is worth 2 points. The mark is for how well the report conveys the process that was followed by the group (including when things happened and who did them), and how insightful are the reflections on strengths and limitations of the process, along with suggestions for improving it.