

**CS4400-X2 (Spring 2018)**  
**Assignment #1: Conceptual Design**

**Grade: 8%**

**Due date: Feb 13, 2018**

**Deliverables**

**Submitted to T-Square and bring hard copy to class**

The deliverables include (in a single PDF file):

1. A cover page - with your name, a paragraph saying what your background and previous database experience is, your major, degree and rank, and email.
2. Enhanced Entity Relationship (EER) Diagram
3. Information Flow Diagram (IFD)
4. A list of **logical semantic** constraints. You are required to include at least **three (3)** constraints, although a fully specified system will probably have more than that.
5. Any assumptions made, with justification and explanation. If you feel that there is no ambiguity in the given specifications, you do NOT have to make any assumptions.

**Assignment Description**

For the description of the assignment, refer to the **Phase 1** description under the “**Project Option A**” folder uploaded under Resources on T-Square.

**Important Caveat:**

1. The EER must capture the functionalities of the application system whenever applicable. (e.g., total participation, superclasses/subclasses, weak entities)
2. The design of your system must include all functionalities as indicated by the application description in this document. You are allowed to make up additional assumptions as long as they do not conflict with the specified constraints and requirements. Note that assumptions should be made only if you have incorporated them by having some special consideration to draw the EER diagram in a certain way. You must list all your assumptions; otherwise, your EER diagram will lose points since the TA will not understand certain parts of your design based on certain assumptions you made. Information extraneous to the required functionality may count against you.
3. Logical constraints that can be specified directly using ER notation will not count towards the three required. Constraints related to data type or values are not accepted as constraints.
4. You will also turn in an Information Flow Diagram which shows the various tasks that need to be implemented along with the inputs they receive (called External Documents in the notes) and the direction of flow of the information in terms of reading and writing from the database. Please consult the notes called “Design Methodology Notes” (by Prof Leo Mark) under “Database Design Methodology” under resources.

**Notes:**

For drawing the EER, clean hand-drawn diagrams are acceptable. If you hand-draw it, you will need to include a scanned version in the pdf you turn in. As far as possible try using drawing software available in MS-Word, Visio etc.

Other software for drawing EER diagrams:

Dia - <http://dia-installer.de/>

Inkscape: <http://www.draw.io/>

**TA Help:**

You are encouraged to discuss with the TA the general notation and use of EER diagrams for this assignment. You can consult the TA for doubts and clarifications about using the EER model, and any notational issues. However, you cannot ask the TA about how to model certain things in the given specs. You also CANNOT show them a solution and ask their feedback about whether something is right or wrong.

**This is an individual assignment and every student needs to turn in one hard copy in class and must upload an electronic copy to T-Square individually.**