

CSE 3330
Project 1 Phase 1

Submitted by-
Suyash Ghimire
Donna Safaddin

Date:
02/25/2020

Submitted to-
Prof. Bhanu Jain

HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

A handwritten signature in black ink, appearing to read "Suyash", with a long horizontal stroke extending to the right.A handwritten signature in black ink, appearing to read "Donna Safaddin", written in a cursive style.

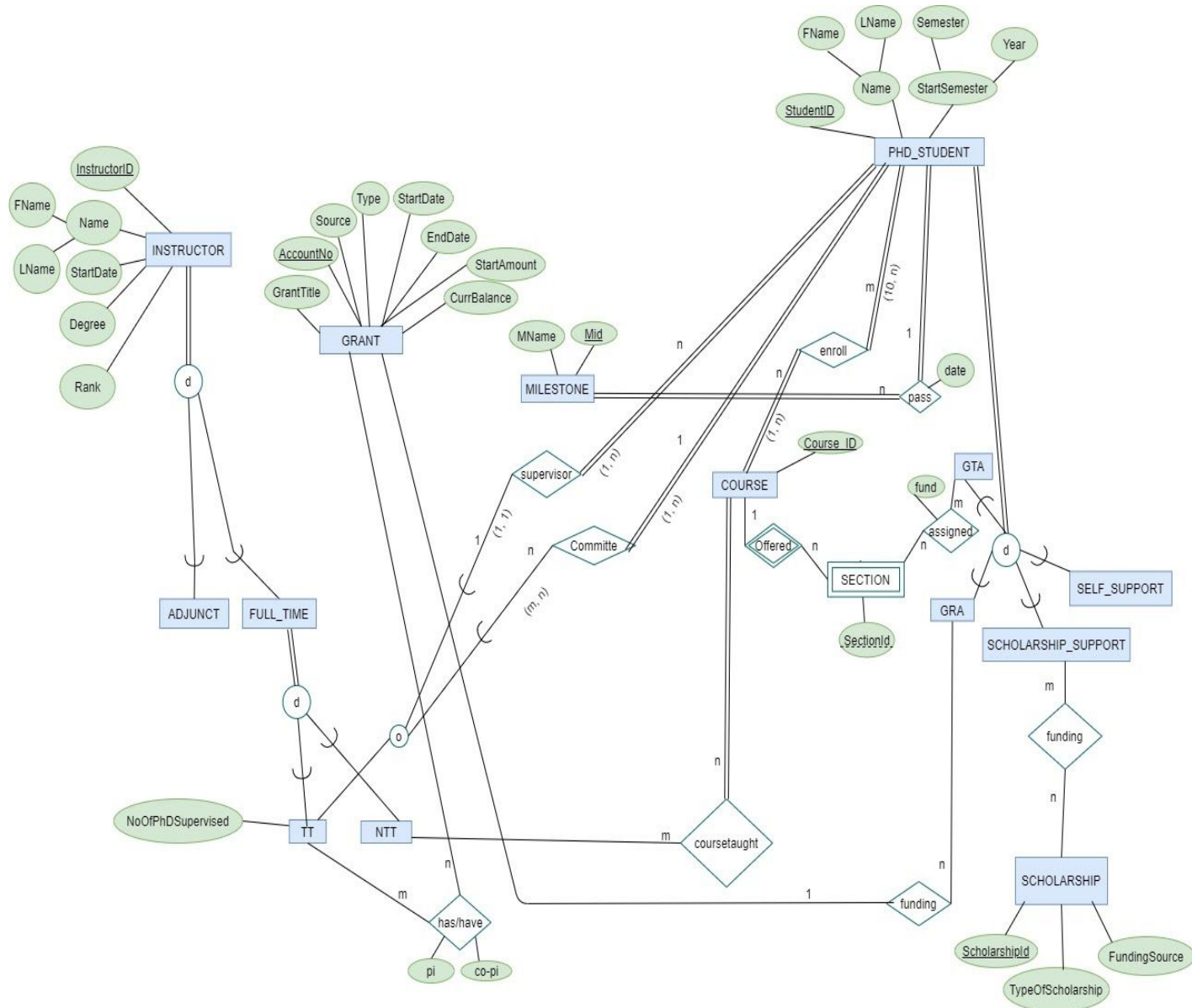


FIG- EER Diagram

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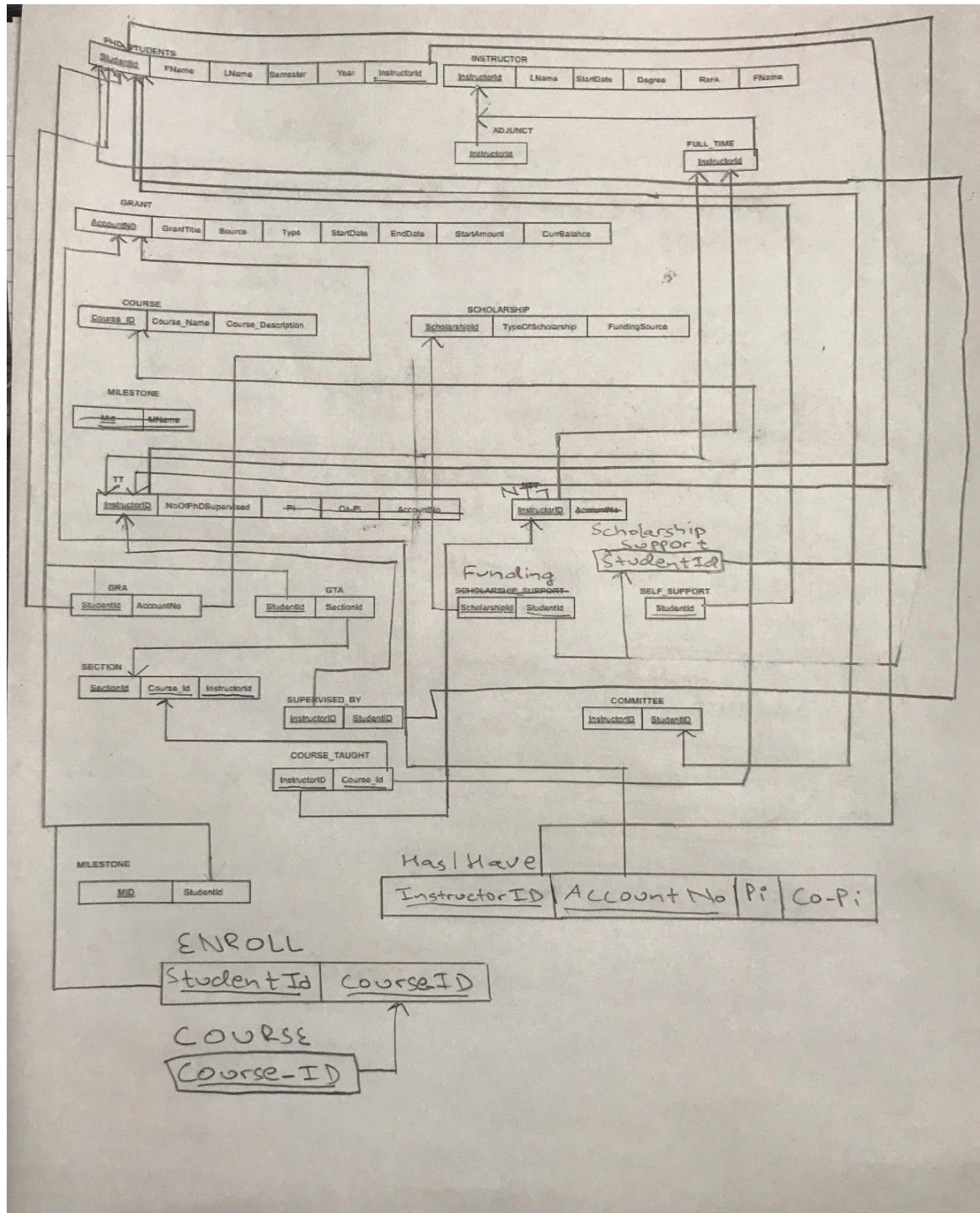


FIG- Relational Schema

Documentation for Doctoral Database

Assumptions:

1. Entities: PHD_STUDENT, INSTRUCTOR, GRANT ,MILESTONE, CORSE, ADJUNCT, FULL_TIME, TT (tenure track), NTT (non-tenure track), . On the other hand we have weak entities such as, SECTION, GTA, GRA, SCHOLARSHIP_SUPPORT, SELF_SUPPORT, and SCHOLARSHIP. Also there is a weak entity which is SECTION that has partial key (sectionId). SECTION is derived from the COURSE entity.
2. Attributes for entities:
 - a) PHD_STUDENT entity has many attributes such as, Name, Name:FName, Name: LName, StartSemester, StartSemester: Semester, StartSemester: Year, and the primary key is StudentID.
 - b) INSTRUCTOR entity has many attributes such as, Name, Name:FName, Name: LName, StartDate, Degree, Rank, and the primary key is InstructorID. There are two types of instructors ADJUNCT and FULL_TIME
 - c) GRANT entity has many attributes such as,GrantTitle, Source, Type, StartDate, EndDate, StartAmount, CurrBalance, and the primary key is AccountNo.
 - d) MILESTONE entity has the attribute MName and primary key Mid.
 - e) COURSE we assume it has a primary key Course_ID that includes letters indicating the department and numbers for example cse 3330. The weak entity SECTION (derived from COURSE) has SectionId that shows with dotted underline.
 - f) SCHOLARSHIP entity has TypeOfScholarship and FundingSource attributes and primary key ScholarshipId.

- g) FULL_TIME has two separate disjoint entities: TT entity (tenure track) has NoOfPhDSupervised attribute and NTT(Non Tenure Track)
3. Relationships and some attributes related to them: Such as the relationship pass has date as its attribute assigned has fund attribute, and has/have has pi and co-pi attributes. Some of the relations used are: assigned , offered(weak) enroll, funding, supervisor, coursestaught, committee
 4. The (min,max) notation for relationship constraints: We can see in the EER diagram many relationships such as one or more PHD_STUDENT has one and only one supervisor from TT; there are at least 10 PHD_STUDEN or more can enroll in one or many COURSE; one or many PHD_STUDENT be committed by more than one TT
 5. There are cardinality ratio (of a binary relationship): in many places in the diagram. We can see there are m:n, 1:n, and 1:1 relationships.
 6. Generalization and specialization presentation: There are classes and subclasses in the EER diagram. two basic constraints can apply to a specialization/generalization disjointness constraint that shows letter d inside circle for disjoint subclasses and letter o inside circle for overlapping subclasses.
 7. Total or partial participation presentation: that we can see as single line or double lines in the EER diagram
 8. Note: In the schema we have a weak entity type which is SECTION that has two words the Course_Id and SectionId both as a primary key so there is an underline below them. Also for each primary key in the EER and the schema are underlined.