**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.

-Sakshi Patel

-Het Desai

**Project Phase-1**

**Database-Doctoral**

**Assumptions**

1. PHD\_STUDENT get the Financial\_Support from GRA, GTA, SCHOLARSHIP\_SUPPORT & SELF\_SUPPORT.
2. GRA will be having Research\_Area as an attribute whose values can be AI, CYBER\_SECURITY & SE.
3. GRA is Funded\_By GRANT with its total participation to the relation and the relation Funded\_By has attribute MonthlyPay.
4. GTA will have a composite attribute – Department with components DeptId(Unique) & DeptName.
5. Each GTA is Assigned\_To more than one section.
6. SCHOLARSHIP\_SUPPORT is related with SCHOLARSHIP as Funding in the mode of Stipend with the Cardinality ratio of N:1.
7. SELF\_SUPPORT has attribute Installment plans.
8. There are two types of Instructor – ADJUNCT & FULL\_TIME
9. TT entity type will keep the record of NoOfPhdSupervised and TT is related to PHD\_STUDENT with Committee relationship type and PHD\_STUDENT has total participation with the relation. And this relationship will have an attribute-Supervisor.
10. Each Grant is Associated\_With TT where relationship keeps the record of Investigator.
11. NTT will keep record of NoOfCourseTaught.
12. Many COURSEs are taught by several INSTRUCTORs.
13. COURSE entity is in relation to SECTION with identifiable relationship Offered. SECTION is the weak entity type and it has a partial key attribute SectionID.
14. PHD\_STUDENT has a relationship Pass with MILESTONE entity type in M:N Cardinality Ratio. This pass relation has an attribute PassDate.
15. Several Supervisor from TT supervise N PHD\_STUDENTs.
16. N number of sections are offered to one COURSE.
17. N GRAs are funded by a GRANT & N TTs are associated with a GRANT.
18. Each GTAs have one SECTION for their source\_of\_funding.
19. 1 GTA is assigned to many sections.
20. PHD\_STUDENT & MILESTONE has total participation with Pass relationship.
21. INSTRUCTOR and COURSE share total participationship with their relation
22. SECTION is totally participated with the OFFERED, ASSIGNED\_TO & SOURCE\_OF\_FUNDING relations.
23. GRANT is also totally participated in a relation with ASSOCIATED\_WITH.

**Design Choices for entity, attributes & relationships**

**Entities:**

* **PHD\_STUDENT:**

Attributes: StudentId(key), Name-FName & LName, Semester, Year, StartSemester.

* **GRA:**

Attribute: ResearchArea

* **GTA:**

Attribute: Department(like CSE etc.) – DepartmentID(Key), DepartmentName

* **SCHOLARSHIP\_SUPPORT**
* **SELF\_SUPPORT:**

Attribute: InstallmentPlan

* **GRANT:**

Attributes: Source, GrantTitle, AccountNo(Unique), StartAmount, CurrBalance, Type, StartDate, EndDate.

* **Scholarship:**

Attribute: ScholarshipType, FundingSource, ScholarshipID(Unique)

* **Milestone:**

Attributes: Mname, Mid(Unique)

* **Instructor:**

Attributes: InstructorID(Key), Name- Fname & Lname, StartDate, Degree, Rank

* **ADJUNCT**
* **FULL\_TIME**
* **TT:**

Attributes: NoOfPhdSupervised

* **NTT:**

Attribute: NoOfCoursestaught

* **Course:**

Attribute: CourseID(Key), Coursename

* **Section:**

Attribute: SectionID(Partial Key)

**RELATIONSHIPS**

**PHD\_STUDENT – MILESTONE:** Many-to-Many relationship which depicts that a student may pass several milestones to gain degree.

**PHD\_STUDENT – TT:** Many-to-Many relationship which describes that each supervisor from COMMITTEE supervise N students.

**INSTRUCTOR – COURSE:** Many-to-Many relationship which says that many courses are taught by several INSTRUCTORs.

**COURSE – SECTION:** One-to-Many relationship shows that a courses is offered to many sections.

**GRA – GRANT:** Many-to-One represents that many GRAs are funded by one GRANT.

**GTA – SECTION:** One-to-Onerelation shows that there will be One GTA who will have one SECTION as its SOURCE\_OF\_FUNDING.

**GTA – SECTION:** One-to-Many relationship depicts that One GTA is assigned to many SECTIONs.

**SCHOLARSHIP\_SUPPORT – SCHOLARSHIP**: Many-to-One relationship shows that one scholarship funding is given to N students who receives SCHOLARSHIP\_SUPPORT.

**GRANT – TT:** One-to-Many relation represents that one grant is associated\_with many TTs.