**University Database Management System**

The goal of this database is to reduce the data redundancy and improve data consistency by merging all the databases and data descriptions(metadata) into one central repository.

**Business Problems addressed in our model :**

* Using a centralized database to track overall student’s academic performance regardless of the department they belong to and determine the list of students with lower grades. This will help the University and the Professors to focus more on these students and look at ways to assist them.
* Determine the number of courses handled by Professors and ensure that sections per course is evenly split between Professors. Also, determine the number of sections required based on course registrations.
* Making course registration easier. Suppose a student wants to opt for a course from a different department, he can do so by accessing the course registration system which is in sync with the central database.
* Making sure each student is assigned an advisor. Having a centralized database, gives the student flexibility to choose an Academic Advisor (from any Department) or a counsellor they are comfortable with.

**Entities:**

* University Campus
* Courses
* Departments
* Professors
* Students
* Grades
* Staff
* Advisor
* Sections
* Contract Staff
* Permanent Staff
* Teaches
* Building
* Course Catalog
* Course Registration

**ER Diagram:**

**Diagram

Description automatically generated**

**Business rules:**

* A University can have many campuses. A campus will offer at least one COURSE. A COURSE may or may not be offered by a UNIVERSITY CAMPUS.
* A DEPARTMENT can be common to one or many UNIVERSITY CAMPUSES. UNIVERSITY CAMPUS will have at least one DEPARTMENT.
* A SECTION can be assigned to at least a COURSE. A COURSE will always be assigned to one SECTION.
* A student should register for at least one course. There should one or more instances within COURSE REGISTRATIONS per student. The ‘Course Name’ is a multi-valued attribute.
* Only one COURSE can be registered (in COURSE REGSITRATION) per STUDENT.
* STUDENT has secured a GRADE per course. GRADES may one or more STUDENTS
* Many PROFESSORs may or may not be assigned to a COURSE. But a COURSE can be assigned to at least one PROFESSOR. The PROFESSOR can be hired either on a PERMANENT or a CONTRACT BASIS.
* DEPARTMENT will have at least one PROFESSOR. Each PROFESSOR is assigned to a DEPARTMENT.
* DEPARTMENT will have at least one ADVISOR. Each ADVISOR is assigned to a DEPARTMENT.
* A STUDENT is assigned one ADVISOR. An ADVISOR may have more than one STUDENTS.
* Each STAFF may or may not belong to a UNIVESITY CAMPUS. A person from STAFF may or may belong to a specific campus.

**How to run:**

* Download both the scripts and execute them all at once.

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