

University Management System ER Diagram

The **university management system ER diagram** shows the relationships of the system's entities that build its database design. This describes the logical structure of the system's database or data storage. It is done by identifying the university management process entities, their properties, and the interactions between them. The **university management system database design** is sketched out using **ER (entity-relationship) diagram**. This sketch becomes the actual basis of the system's data storage that will serve as data destination and source.

University Management System Features

- **University Management** - University Management is the main feature of this system wherein ER diagram contains the basic details of the university. This basic information was composed of the courses and programs offered.
- **Student Management** - This feature plays a big role in the system because this gathers important information about the students. This information was used to track their transactions and other important matters regarding the system.
- **Manage Courses and Subjects** - The university admin will have to set the selected courses for every student, then assign appropriate instructors to the subjects covered by each course.
- **Manage Instructors** - This system handles the instructors' information as well as their complete schedule of classes and all that were needed to be done in managing instructors.
- **Transaction and Scheduling Management** - Its feature will store the transactions made by the students and instructors including their information and their schedules for every subject and timetables.

What is an ER Diagram?

In DBMS, the ER Diagram is referred to as the **university management system database design**. It is the graphical depiction of relationships between all the entities involved in the system. Its major components are Entities, Attributes, and Relationships.

To build and troubleshoot relational databases, the **university management system ER Diagram** is used. It works best with DFD (Data Flow Diagram), which is responsible for data movement. Developing the **database design for university management system** would be much easier with the help of ER diagram.

Importance of ER Diagram

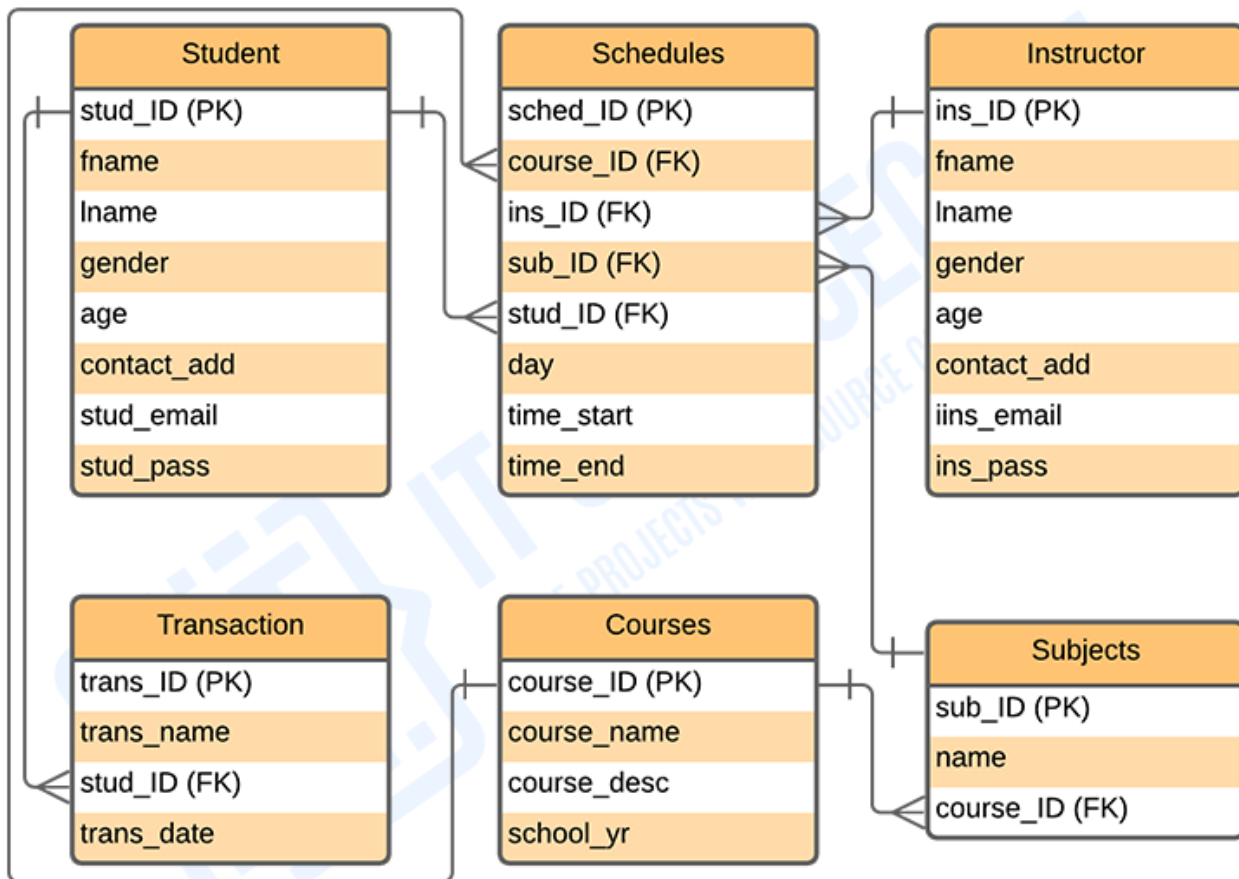
The **importance of ER diagram for university management system** is to help in modeling its data storage or database. It is the basis of the project's database foundation for construction. The **university management system entity-relationship diagram (ERD)** also aids in defining the data types to be stored such as their attributes and characteristics.

All other real-world projects are presented with ER Diagrams (database designs). To display the details and attributes of a data store, the **er diagram for university management system** is used in conjunction with its data flow diagram. It visualizes how data is connected generically.

ERD (Entity-relationship diagram) is utilized in software engineering during the planning phase of software development. It aids in the identification of various system constituents and their interrelationships. **University Management System ERD** is also used as the foundation of the university management DFD (Dataflow Diagram).

ER Diagram for University Management System

ER Diagram of University Management System shows the system entity relationships in each entity and their supposed functions in each relationship.



University Management System ER Diagram

Based on the image above, the **ER diagram for university management system tables** is the students, schedules, instructors, transactions, courses, and subjects. The tables are made to meet the required specification of the system and provide much more specific details of each entity within the system.

University Management System Database Design

This **university management system database design** was made based on managing university requirements. The system can encode students' information. University admin can have access to the students' status and information for the important transactions including student and instructors/teachers' files management and enrollee's activities.

The features included in the created ER diagram were the security and monitoring of the student's records, transactions, and status. These features were also listed and recorded in reports that served as the history of transactions done in the system.

University Management System ER Diagram Tables

These tables below provide the complete database table details such as **Field Name, Descriptions, data types, and character lengths**.

Table Name: Student

Field	Description	Type	Length
stud_ID (PK)	Student ID	Int	11
fname	Student First Name	Varchar	255
lname	Student Last Name	Varchar	255
gender	Student Gender	Int	11
age	Student Age	Int	11
contact_add	Contact Address	Int	11
stud_email	Student Email	Varchar	255
stud_pass	Student Password	Varchar	255

Table Name: Instructor

Field	Description	Type	Length
ins_ID (PK)	Instructor ID	Int	11
fname	Instructor First Name	Varchar	255
lname	Instructor Last Name	Varchar	255
gender	Instructor Gender	Int	11
age	Instructor Age	Int	11
contact_add	Contact Address	Int	11
ins_email	Instructor Email	Varchar	255
ins_pass	Instructor Password	Varchar	255

Table Name: Course

Field	Description	Type	Length
course_ID (PK)	Course ID	Int	11
course_name	Course Name	Varchar	30
course_desc	Course Description	Varchar	30
school_yr	School Year	Int	11

Table Name: Subjects

Field	Description	Type	Length
sub_ID (PK)	Subject ID	Int	11
name	Subject Name	Varchar	255
course_ID (FK)	Course ID	Int	11

Table Name: Schedules

Field	Description	Type	Length
sched_ID (PK)	Schedule ID	Int	11
course_ID (FK)	Course ID	Int	11
sub_ID (FK)	Subject ID	Int	11
ins_ID (FK)	Instructor ID	Int	11
stud_ID (FK)	Student ID	Int	11
day	Day of schedule	Date	
time_start	Starting Time	Time	
time_end	Time Ended	Time	

Table Name: Transactions

Field	Description	Type	Length
trans_ID (PK)	Transaction ID	Int	11
trans_name	Transaction Name	Int	11
stud_ID (FK)	Student ID	Int	11
trans_date	Transaction Date	Date	

The tables given will be the basis for developers on how would they do the **university management system database design**. It has the complete description of the database and they will put this into the program or data storage the same as the names given to each of the tables. They will create a database with the attributes given as well as the value of each attribute.