

# School Management System ER Diagram

The **school 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 school management process entities, their properties, and the interactions between them. The **school 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.

## School Management System Features

- **School Management** - Bank Management is the main feature of this system wherein ER diagram contains the basic details of the school. 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.
- **Course and Subjects Management** - The school admin will have to set the selected courses for every student, then assign appropriate instructors to the subjects covered by each course.
- **Instructors Management** - 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** - This 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 of school management system** is also known as the system's **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 **school 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 school management system** would be much easier with the help of ER diagram.

## Importance of ER Diagram

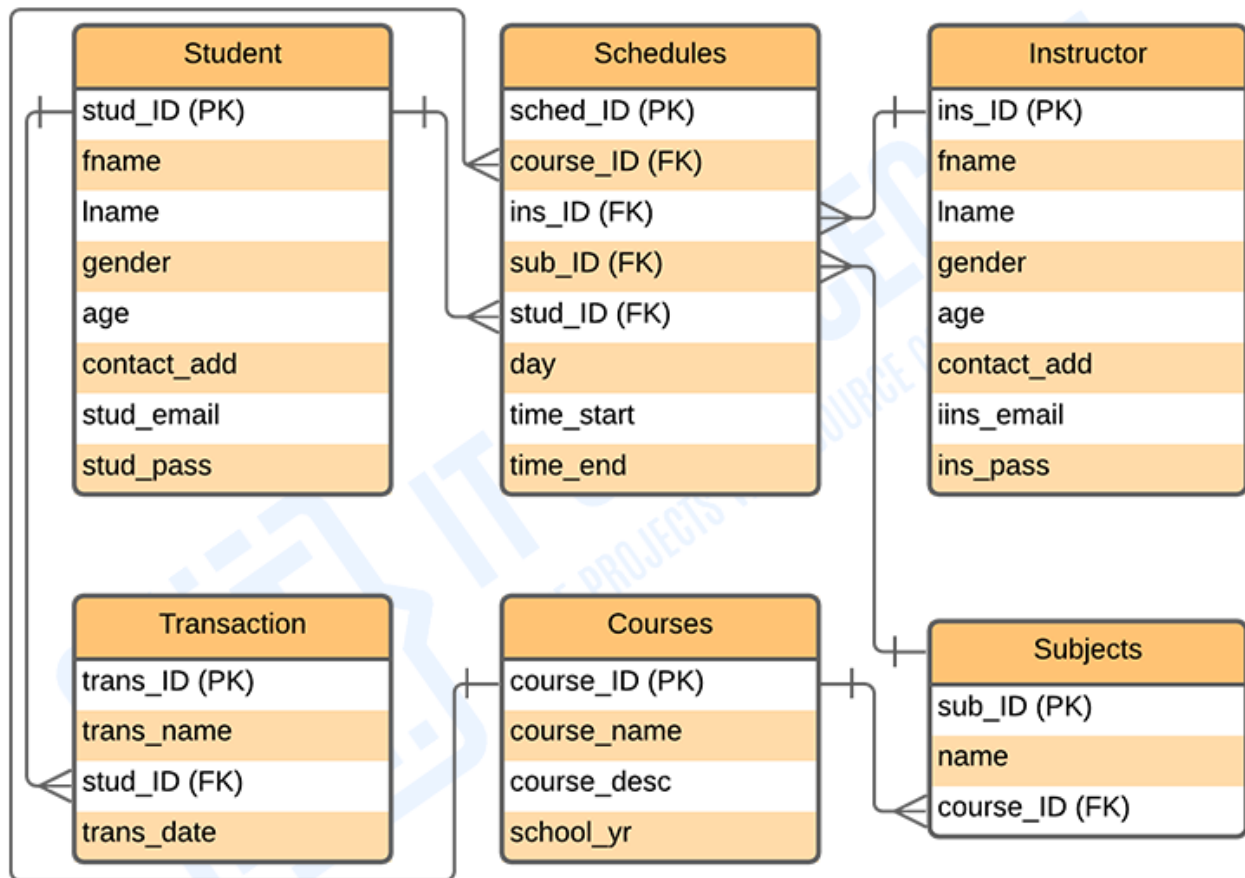
The **importance of ER diagram for school management system** is to help in modeling its data storage or database. It is the basis of the project's database foundation for construction. The **school management system entity-relationship diagram (ERD)** also aids in defining the data types to be stored 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 school 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. **School Management System ERD** is also used as the foundation of the school management DFD (Dataflow Diagram).

## Simple ER Diagram for School Management System

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



*School Management System ER Diagram*

Based on the image above, the **ER diagram for school management system tables** are; students, instructors, schedules, 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.

# School Management System ER Diagram Description

This **School management system database** design was made based on managing school requirements. The system can encode students' information. School admin can have access to the students' status and information for the important transactions. They can handle the data needed in managing student and instructors/teachers' files as well as the transactions made by their enrollees.

The features included in the system 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.

## School Management System ER Diagram Tables

These tables below provide the complete database table details such as **Field Name, Descriptions, data types, and character lengths**. Each of these tables represents the characteristics and the attributes of data storage.

The **field** column presents the names of each database's attributes, the **description** column gives the complete thought of each attribute, the **type** column is their data type and the **length** is for their character lengths.

### Table Name: Student

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

### Table Name: Instructor

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

**Table Name: Course**

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

**Table Name: Subjects**

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

**Table Name: Schedules**

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

**Table Name: Transactions**

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

The tables given will be the basis for developers on how would they do the **school 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.