Business Requirements:

This diagram represents an Entity-Relationship (ER) model for a university database system. Below are the potential business requirements based on the entities and relationships shown:

1.Department:

Store department information, including Department name *(Primary Key)*, building, and budget.

2.Instructor:

Maintain records of all instructors, including ID *(Primary Key),* Name *(Composite attribute):* 'first name & last name', department name *(Foreign key)* from department table and salary.

3.Student:

Maintain a database of all students, including ID *(Primary Key)*, Name *(Composite attribute):* 'first name & last name', department name *(Foreign key)*, and total credits earned.

4.Course:

Store information about courses, including Course ID (*Primary Key)*, title, department name *(foreign key)*, and credits.

5.Section:

Maintain sections for each course, including Section ID, Course ID ,year, semester *(Composite Primary Key)*, building *(Foreign key)*, room number *(Foreign key)*, and time slot id *(Foreign key)*.

6.Classroom:

Manage classrooms, including Room number **,** building *(Composite primary key)* and capacity.

7.Schedule:

Schedule time slots for sections, including Time slot ID *(Primary Key)*, day, start time, and end time.

8.Prerequisites (Weak entity)

Define prerequisite relationships between courses, including course id and prereq id (Partial key).

9.Advisor:

Student id & Instructor id *(Composite primary key),* Student id *(Foreign key)* ,Instructor id *(Foreign key)*.

10.Teaches:

Instructor ID, Section ID, Course ID, year, semester *(Composite Primary Key),* Instructor id *(Foreign key), Section* ID, Course ID, year, semester *(Foreign key)*.

11.Takes:

Section ID, Course ID, Section ID, year & semester *(Composite Primary Key),* Student id *(Foreign key)* Section ID, Course ID, year, semester *(Foreign key)*.

Data Relationships:

1. instructor *employes* Department.

2.Department *offers* Course.

3.Course *has* a Prerequisite.

4.Course *include* Section.

5.Classroom *contains* Section.

6.Instructor *guides* Advisor.

7.Instructor *teaches* Section.

8. What Students takes *includes* Sections

9.Advisor *advise* Student.

10.Department *has* Student.

11.Section is *scheduled* through Time slot.