Education Domain - E-R Diagram Documentation

1. Entities and Attributes

❖ **Student**: Represents individuals enrolled in the institution.

- StudentID (PK)
- Name
- DOB
- Email
- Phone

❖ **Course**: Represents courses offered by the institution.

- CourseID (PK)
- CourseName
- Credits
- Department

❖ **Instructor**: Represents faculty members teaching courses.

- InstructorID (PK)
- Name
- Email
- Department

❖ **Department**: Represents academic departments.

- DepartmentID (PK)
- DepartmentName
- HeadOfDepartment

❖ **Enrollment**: Associative entity linking students and courses.

- EnrollmentID (PK)
- StudentID (FK)
- CourseID (FK)
- EnrollmentDate
- Grade

3. Relationships and Cardinalities

- **Student - Enrollment**: 1:N (A student can enroll in multiple courses)

- **Course - Enrollment**: 1:N (A course can have multiple students)

- **Instructor - Course**: 1:N (An instructor can teach multiple courses)

- **Course - Department**: N:1 (Each course belongs to one department)

- **Instructor - Department**: N:1 (Each instructor belongs to one department)