SQL (Structured Query Language) SEQUEL

Data definition language (DDL)
Data manipulation language (DML)

Catalog - (meta data) - collection of schemas (database)

Schema - logically grouped relations i.e. tables.

Tables, types, constraints, views, domains, etc.. (authorization)

Tuples (Row)
Attributes (Columns)
Relations (Tables)

Minimum DDL*

CREATE SCHEMA ab240243 (schema name)
AUTHORIZATION ab240243 (user name);

Default schema (dbo) - database owner.
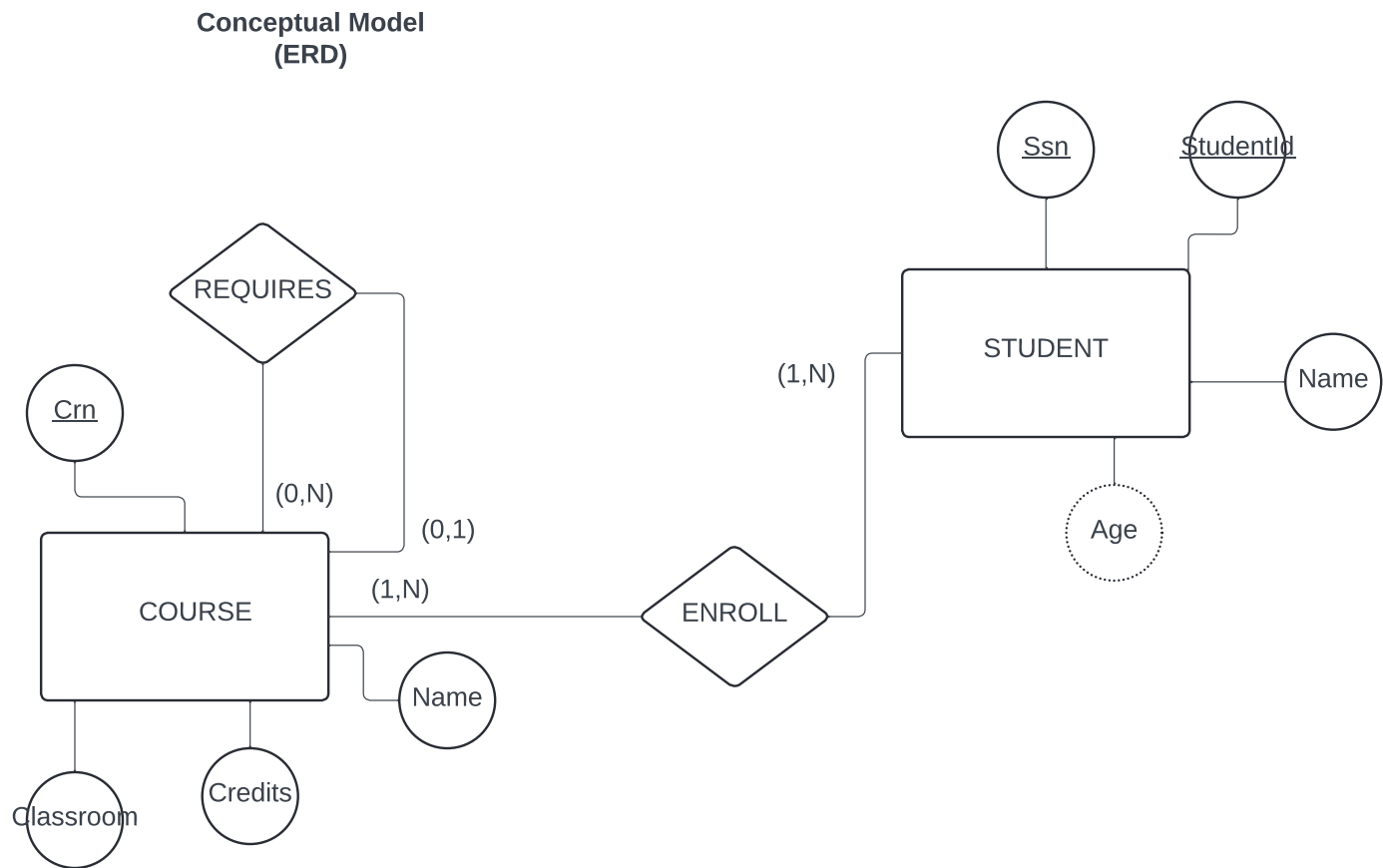Database Admin - creates and manages schemas.

Relational Databas Schema S = { R1, R2, ..., Rm } and also a set of integrity constraints IC.

Logical Data Requirements

A university offers courses. Courses are uniquely identified identified by a Crn (course number). Course name, credits, classroom, and the single prerequisite course necessary to be completed by a student prior to being enrolled.
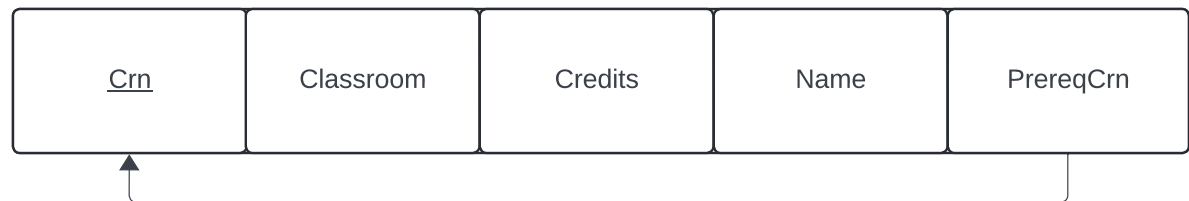
Students enroll in one or many courses. For each course they take, the grading option must be recorded, the date enrolled in the course must be recorded.

Students are uniquely identified by an Ssn and StudentId number. Student names and age must be recorded.

Conceptual Model (ERD)

Relational Model (Relational Schema)

COURSE

Crn	Classroom	Credits	Name	PrereqCrn

Domains
• Crn_number = character string of five characters (numbers and letters).
• Classroom_number = integer.
• Credits = integer number, maximum of 25 credits.
• Name = Character string of variable length.