Conceptual Design

Entities:

Student:

Student\_ID (Primary Key)

Name

Enrollment\_Date

Contact\_Information (email, phone)

Major\_ID (Foreign Key)

Course:

Course\_ID (Primary Key)

Name

Credit\_Hours

Department\_ID (Foreign Key)

Prerequisites (optional, linked to other courses)

Faculty:

Faculty\_ID (Primary Key)

Name

Contact\_Information (email, phone)

Office\_Hours

Department\_ID (Foreign Key)

Classroom:

Room\_Number (Primary Key)

Maximum\_Capacity

Enrollment:

Enrollment\_ID (Primary Key)

Student\_ID (Foreign Key)

Course\_ID (Foreign Key)

Enrollment\_Date

Grade (optional)

Department:

Department\_ID (Primary Key)

Department\_Name

Head\_of\_Department (Faculty\_ID)

Relationships:

Each Student can be enrolled in many Courses (one-to-many relationship between Student and Enrollment).

Each Course can have many Students enrolled (one-to-many relationship between Course and Enrollment).

Each Course is taught by one Faculty Member (one-to-many relationship between Faculty and Course).

Each Faculty Member can teach many Courses (one-to-many relationship between Faculty and Course).

Each Course belongs to one Department (one-to-many relationship between Department and Course).

Each Department can offer many Courses (one-to-many relationship between Department and Course).

Each Classroom can be assigned to many Courses (one-to-many relationship between Classroom and Course).

Each Course can be assigned to one Classroom (one-to-one relationship between Classroom and Course).