



## Assignment-1 Phase-1

**Under oversight:** D. ALI ZIDANE

**Course Name:** IS211-SIS211 INTRODUCTION TO  
DATABASE SYSTEMS

Name	ID	Class
Mahmoud Adel Korany Hessain	20230617	All
Abdullah Adel Eid Sharaawy	20230522	All
Beshoy Beshay Saeed Salama	20230102	S18
Abdullah Islam Fathy	20230225	All
Muhammed musa abu awwad	20230752	All
Mohammed Hussein Abdulwahab Ibrahim	20210336	All

## ERD Requirements and Description

- This ERD includes the following entities:
  - Student
  - Instructor
  - Course
  - Enrollment (**Weak Entity**)
  - Test
  - Quiz
  - Exercise
  - StudentGrade (**Weak Entity**)
- The ERD includes at least one many-to-many relationship:
  - Between Student and Course via the Enrollment entity.

## Weak Entities:

- Enrollment (depends on Student and Course)
  - StudentGrade (depends on Student and Course)
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- Primary keys and foreign keys are clearly marked in the ERD.

## Relationships in the ERD

### 1. Teaches (Instructor - Course)

- One instructor can teach many courses.
- Each course is taught by one instructor.

### 2. Enrolls In (Student - Course) via Enrollment (Weak Entity)

Many students can enroll in many courses (Many-to-Many).

- Enrollment stores the EnrollmentDate.

### 3. Includes (Course - Test)

- Each course can include multiple tests.

### 4. Includes (Course - Quiz)

- Each course can include multiple quizzes.

### 5. Includes (Course - Exercise)

- Each course can include multiple exercises.

### 6. Receives (Student - StudentGrade)

- A student receives grades in courses through the StudentGrade weak entity.

### 7. Registered (Enrollment - Student)

- Connects students to the enrollment record.

8. **Registered (Enrollment - Course)**

- Connects courses to the enrollment record.

9. **Includes (Course - StudentGrade)**

- A course includes grades recorded in the StudentGrade entity.

10. **Includes (Course - Enrollment)**

- A course includes multiple enrollment records.

## Course Management System - ERD Phase 1

