

DATABASE MODEL

Creation script:

-- USERS TABLE

```
CREATE TABLE Users (  
    Id INT IDENTITY(1,1) PRIMARY KEY,  
    Name NVARCHAR(100) NOT NULL,  
    Email NVARCHAR(150) UNIQUE NOT NULL,  
    Program NVARCHAR(50),  
    Semester INT,  
    StudentNumber NVARCHAR(50),  
    CreatedAt DATETIME2 DEFAULT GETDATE(),  
    UpdatedAt DATETIME2 DEFAULT GETDATE()  
);
```

-- COURSES TABLE

```
CREATE TABLE Courses (  
    Id INT IDENTITY(1,1) PRIMARY KEY,  
    Title NVARCHAR(150) NOT NULL,  
    Description NVARCHAR(1000),  
    UserId INT NOT NULL,  
    CreatedAt DATETIME2 DEFAULT GETDATE(),  
    UpdatedAt DATETIME2 DEFAULT GETDATE(),  
    CONSTRAINT FK_Courses_Users FOREIGN KEY (UserId) REFERENCES Users(Id) ON DELETE CASCADE  
);
```

-- ASSIGNMENTS TABLE

```
CREATE TABLE Assignments (  
    Id INT IDENTITY(1,1) PRIMARY KEY,  
    Title NVARCHAR(200) NOT NULL,  
    Description NVARCHAR(2000),  
    Deadline DATE NOT NULL,  
    CourseId INT NOT NULL,  
    CreatedAt DATETIME2 DEFAULT GETDATE(),  
    UpdatedAt DATETIME2 DEFAULT GETDATE(),  
    CONSTRAINT FK_Assignments_Courses FOREIGN KEY (CourseId) REFERENCES Courses(Id) ON DELETE  
    CASCADE  
);
```

-- TASKS TABLE

```
CREATE TABLE Tasks (  
    Id INT IDENTITY(1,1) PRIMARY KEY,  
    Description NVARCHAR(1000) NOT NULL,  
    Done BIT NOT NULL DEFAULT 0,  
    AssignmentId INT NOT NULL,  
    CreatedAt DATETIME2 DEFAULT GETDATE(),  
    UpdatedAt DATETIME2 DEFAULT GETDATE(),  
    CONSTRAINT FK_Tasks_Assignments FOREIGN KEY (AssignmentId) REFERENCES Assignments(Id) ON DELETE  
    CASCADE  
);
```

Relations:

Users table


Purpose:

Stores basic information about a student using the system.

Columns Summary:

- Id: Primary key.
- Name, Email, Program, Semester, StudentNumber: User profile details.
- CreatedAt, UpdatedAt: Track user record creation and updates.

Relations:

-  **One-to-Many:** A user can be enrolled in **many Courses**.



Courses table

Represents a university course the user is taking.

Columns Summary:

- Id: Primary key.
- Title, Description: Course metadata.
- UserId: Foreign key to Users.
- CreatedAt, UpdatedAt: Auditing columns.

Relations:

-  **Many-to-One**: Each course **belongs to one User**.
-  **One-to-Many**: A course can have **many Assignments**.

Assignments table



Purpose:

Stores major tasks (like projects or exams) for a given course.

Columns Summary:

- Id: Primary key.
- Title, Description, Deadline: Assignment details.
- CourseId: Foreign key to Courses.
- CreatedAt, UpdatedAt: Auditing columns.

Relations:

-  **Many-to-One**: Each assignment **belongs to one Course**.
-  **One-to-Many**: An assignment can have **many Tasks**.

Tasks table

Purpose:

Represents smaller checklist items under each assignment.

Columns Summary:

- Id: Primary key.
- Description: What needs to be done.
- Done: Boolean (0/1) indicating completion.
- AssignmentId: Foreign key to Assignments.
- CreatedAt, UpdatedAt: Auditing columns.

Relations:

-  **Many-to-One**: Each task **belongs to one Assignment**.

Diagram:

