

Education Management System

The education management system is a backend application that helps manage student information, teacher assignments, and course scheduling by reducing manual effort while improving data accessibility.

The Education Management System consists of three models, each model has multiple variables and validations

1. Student Model:

[@NotEmpty] cannot be null

[@Size(min = 2)] length must be more than 2 characters

- ID

[@NotEmpty] cannot be null

[@Pattern(regex = "[a-zA-Z]+")] Must contain only alphabetic characters (no numbers).

- name

[@Email] must follow a valid email format

- email

[@NotEmpty] cannot be null

[@Pattern(regex = "^05\\d{8}\$")] must start with 05 and be exactly 10 digits

- phoneNumber

[@NotNull] cannot be null.

[@Min(1)] minimum grade 1.

[@Max(12)] maximum grade 12 .

- grade

[@DecimalMin("0.0")] Minimum 0.0 GPA.

[@DecimalMax("4.0")] Maximum 4.0 GPA.

- gpa

2. Teacher Model:

[@NotEmpty] Cannot be null.

[@Size(min = 2)] Length must be more than 2 characters.

- ID

[@Email] Must follow a valid email format.

- email

[@NotEmpty] Cannot be null.

[@Pattern(regex = "^05\\d{8}\$")] Must start with 05 and be exactly 10 digits.

- phoneNumber

[@NotEmpty] Cannot be null.

[@Pattern(regex = "^(Math|Science|History|English|Physical Education)\$")] Must be one of "Math", "Science", "History", "English", "Physical Education".

- specialization

[@NotNull] Cannot be null.

[@PastOrPresent] Must be a present or past date.

- hireDate

[@NotNull] Cannot be null.

[@Min(1)] Minimum 1 year required.

- yearsOfExperience

3. Course Model:

[@NotEmpty] Cannot be null.

[@Size(min = 2)] Length must be more than 2 characters.

- ID

[@NotEmpty] Cannot be null.

[@Size(min = 3)] → Length must be more than 3 characters.

- name

[@Size(max = 500)] Maximum 500 characters.

- description

[@NotNull] Must reference a valid Teacher.

- teacherId

[@NotNull] Cannot be null.

[@Size(min = 10, max = 60)] minimum 10 students and maximum 60 students

- maxStudents