## **Task 2 – University Course Registration System**

Design an ER Diagram for a database that manages **Students**, **Courses**, and **Instructors** at a university.

1. The university offers many **Courses**.
   * Each Course has a Course\_ID, Title, and Credit\_Hours.
2. Many **Students** are registered.
   * Each Student has a Student\_ID, Name, Email, and Major.
3. The university employs **Instructors**.
   * Each Instructor has an Instructor\_ID, Name, and Department.
4. **Relationship Rules:**
   * A Student can **register** for many Courses, and a Course can have many Students enrolled (**Many-to-Many**).
   * An Instructor can **teach** multiple Courses, but each Course is taught by only **one** Instructor (1:N).
   * A Course can have up to three **Prerequisite** Courses. This is a relationship between the **Course** entity and **itself** (a **Unary** or **Recursive** relationship).

### **🏗️ Your Tasks:**

1. Identify all **entities** and their **attributes**.
2. Determine the primary keys (underline them).
3. Add all relationships and define their cardinalities (1:N, M:N).
4. **Crucially:** Resolve the **Student-Course** M:N relationship using an **associative entity** called **Enrollment**. Add the attribute **Grade** to this new entity.

[draw.io - LINK](https://drive.google.com/file/d/1-dKuMFPIfvQsUltn-2bdkMzJhKgpV4uZ/view?usp=sharing)

