



The above UML diagram depicts the role of a Course Management system designed for a College Environment where administrators, teachers, and students play pivotal roles:

**Administrator:** Administrators have considerable authority within the system. They can add new courses, append modules to existing courses, cancel courses, or remove them entirely from the system. Administrators also oversee the modification of course and module names. Moreover, they possess the ability to generate comprehensive result slips for students, reflecting their module performances, marks, and grades. These result slips play a pivotal role in determining whether students progress to the next level of study.

**Student:** Students play a vital role in the system by enrolling in modules, and monitoring their academic progress. At level 6, students have the opportunity to choose optional modules during

semesters 1 and 2. They can access information regarding the instructors assigned to the modules they are studying.

**Instructor (Teacher):** Instructors are tasked with teaching specific modules assigned to them within the system. They have access to information regarding the modules they are responsible for and can view the list of students enrolled in those modules. Additionally, instructors have the authority to assign marks to students based on their performance in the respective modules.

### **Key System Features:**

The Course Management System must possess the following key features:

- Ability to add and modify courses and modules dynamically.
- Capability to manage instructor details, including additions and removals from modules.
- Functionality to generate result slips for each student, containing comprehensive module performance data.
- Persistence of data in the database to ensure all information is retained between program invocations.

Furthermore, the system should demonstrate the application of object-oriented concepts, including inheritance, encapsulation, object associations, and polymorphism, to facilitate efficient and scalable system design and implementation.