

**Indian Institute of Information Technology, Allahabad**  
**Object Oriented Methodology (OOM)**  
**UML-Class Diagram**

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**Note:** All Assignments should be done independently

**Based on this discussion, the Software Engineer agrees to draw up the preliminary class diagram in UML, so that they can further define the system requirements. Your exercise is to draw that diagram using any of the Software for the purpose.**

Analyze the problem statement to identify the classes (Objects) and interfaces of the system.

## **UNIVERSITY COURSES**

- ☐ In a renowned university, the following system is required to assign courses taught by lecturer to students. Each Course maintains a list of the students on that course and the lecturer who has been assigned to teach that course.
- ☐ The Course allow the adding and removing of students from the course, assigning a teacher, getting a list of the currently assigned students, and the currently assigned teacher.
- ☐ A lecturer may teach more than one course. And maintains the list of the courses that they teaches.
- ☐ Similarly students can study multiple courses. And maintain the list of the courses that they are studying.
- ☐ Both lecturer and students belong to group of person which provides the name and email address of both.

## **VEHICLES**

- ☐ This model is for imaginary application that must model different kinds of vehicles such as bicycles, motor bike and cars.
- ☐ All Vehicles have some common attributes (speed and colour) and common behaviour (turnLeft, turnRight).
- ☐ Bicycle and MotorVehicle are both kinds of Vehicle. MotorVehicle differ from Bicycle as they have engines and license plate. In this model MotorVehicle has "sizeOfEngine" (Engine size) and "licensePlate".

- ❑ **MotorBike and Car are two kinds of MotorVehicle with some additional attributes and functions.**