

## Farzaneh Noroozi- Homework 2

An International School of Technology (IST) has hired you to create a database system to assist in its daily operation. After several interviews with the administrators, you have come up with the following list of entities, attributes, and initial business rules:

- 1) IST depends on a large number of employees for its continued success. There are three groups of employees on whom IST is most dependent: Administrators, Instructors and Staff. Some common attributes are shared by all employees: Emp\_ID (identifier), Name, Address, City/State/Zip, Birth\_Date, and Phone.
- 2) Each of the three groups of employees has at least one unique attribute of its own. Staffs have Certificate, Instructors have Expertise and Rank, and Administrators have position. An employee must belong to at least one of these groups.
- 3) Room is identified by Building\_ID and Room\_NO and also has a Capacity. There are the two different kinds of rooms: Classroom and Office. At a given time, a room must be exactly one of these subtypes. An office may be shared by multiple employees, but an employee cannot have more than one office.
- 4) Timeslot has identifier TSIS and has attributes DayofWeek, StartTime, and EndTime.
- 5) Course has identifier CourseID and has attributes CourseDescription and Credits. Courses can have one, none, or many prerequisites. Courses also have one or more sections.
- 6) Section has identifier SectionID and an attribute EnrollmentLimit.
- 7) A section can be scheduled for no classroom or many classrooms for semesters. However, one classroom can participate in many schedules, one schedule, or no schedule; one time slot can participate in many schedules, one schedule, or no schedules. You are required to keep track of semester and years of each schedule.
- 8) An instructor teaches one, none, or many sections of a course scheduled in a particular semester. Each section of a course scheduled in a seminar has only one instructor.

