4 A university registrar's office maintains data about the following entities:
(a) courses, including number, title, credits, syllabus, and prerequisites;
(b) course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom;
(c) students, including student-id, name, and program; and
(d) instructors, including identification number, name, department, and title. Further, the enrolment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modelled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.

ANS –

1. Entity Relationship Model

sid name   time   secno   room   iid   name

student   enrols   course–offerings   teaches   instructor

year   semester   dept   title

program   grade

is offered

syllabus   courseno

prerequisite

requires   course   title

maincourse

credits
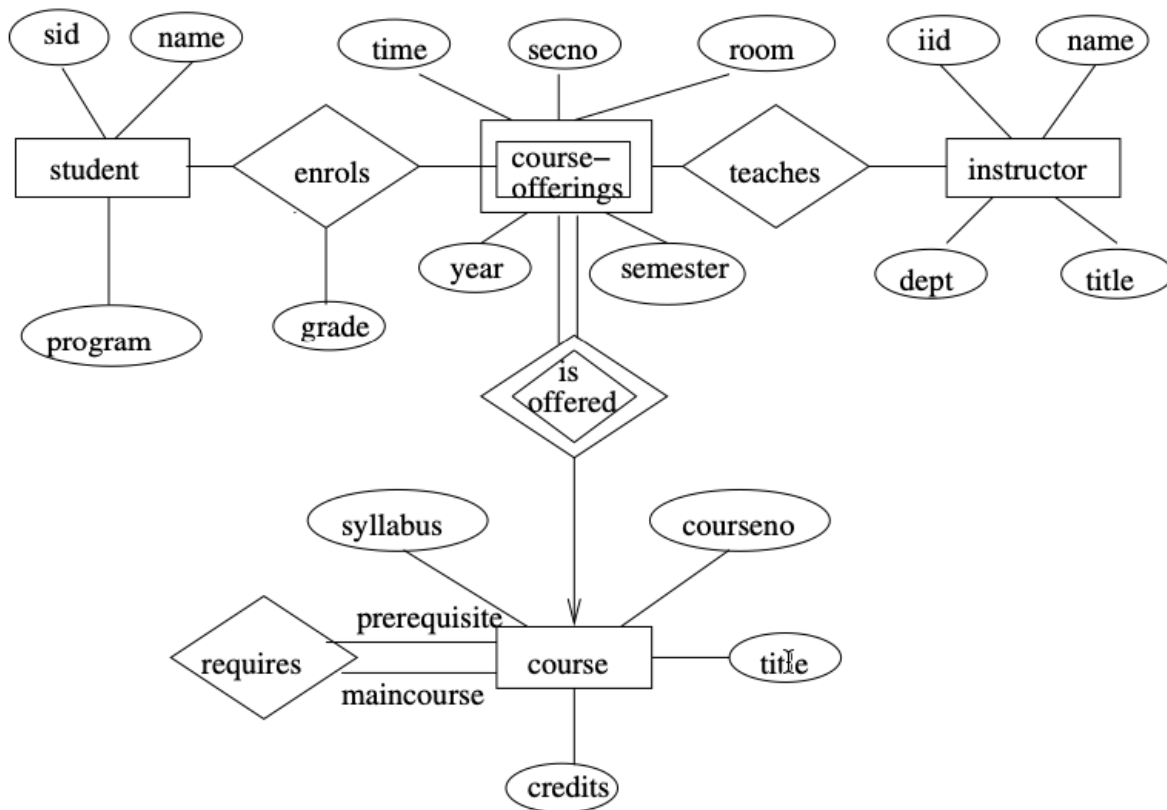
1. In the answer given here, the main entity sets are *student, course, course-offering*, and *instructor*. The entity set *course-offering* is a weak entity set dependent on *course*. The assumptions made are :

a. a class meets only at one particular place and time. This E-R diagram cannot model a class meeting at different places at different times.

b. There is no guarantee that the database does not have two classes meeting at the same place and time.