A university database contains information about professors (identified by social security number SSN) and courses (identified by courseid). Professors also have a name, an address and a phone number. Courses have a name and a number of credits. Professors teach courses. For each of the following situations, draw an ER diagram that describes it (assuming no further constraints hold).

(a) Every professor must teach some course.
(b) Every professor teaches exactly one course (no more, no less).
(c) Every professor teaches exactly one course (no more, no less), and every course must be taught by some professor.
(d) [630 students only] Modify the diagram from (a) such that a professor can have a set of addresses (which are street-city-state triples) and a set of phones. Recall that in the E/R model there can be only primitive data types (no sets).
(e) [630 students only] Modify the diagram from (d) such that professors can have a set of addresses, and at each address there is a set of phones.