ERD Assignment

You are to assume the role of a database analyst who has been assigned to develop an entity-relationship diagram (ERD) for a small-town university, which is preparation for designing a database for the university in the future. The following information has been obtained for use in constructing the ERD. Please draw the corresponding ERD for the following requirements:

The university consists of a number of separate colleges, each with a unique ID, a unique name (e.g., business, engineering, education, liberal arts, etc.) and office location and multiple phone numbers (to accommodate the large number of calls received by the office).

Each college is made up of one or more departments. A given department can belong to only one college. A unique three-letter departmental code (e.g., BIO, MKT, etc.) is assigned to each department. In addition to the code, each department has a name (e.g., biology, marketing, etc.), an office location, and one phone number.

Each department offers one or more courses and must offer at least one course. A given course is offered by only one department. Each course is identified by a combination of the three-letter departmental code and course number (e.g., BIO 2001). Other information recorded for each course is the course name (e.g., Introduction to Biology) and the number of credits that the course is worth.

A course may be offered in several different sections. A given section is an offering of exactly one course. Not all courses in the university's catalog are currently offered in a section, however. Each section has a unique combination of the three-letter departmental code, course number, and section number to identify it (e.g., BIO 2001 001). Other information stored for each section includes the days offered (e.g., MWF, TR, T, etc.), the time offered (e.g., 8:00-9:15, 2:00-3:15, etc.) and the location where the class meets.

Information about students is also to be stored. Students are identified by a unique student number assigned to each student. Included in this information is each student's name and home address. The student's phone number and status (e.g., FR, SO, JR, etc.) are also recorded. Students may enroll in one or more sections. Some students, however, are not currently enrolled in any sections. Sections typically enroll numerous students; however, it is possible for a section to be recorded that has no students yet enrolled for it.

The university also stores information on each professor. This includes their faculty ID (a unique number assigned to all faculty), their name, and their office phone number.

All students are assigned one professor as an academic advisor. Most professors, though not all, serve as advisors and typically advise numerous students.

Professors, of course, also teach the sections of courses that are offered. Most professors teach one or more sections, but some professors may be involved exclusively with research and perform no teaching role. A given section may be taught by a single professor, or "team-taught" by more than one professor.

All professors are employed by the individual departments. No professor is employed by more than one department. Each department employs at least one professor.

Each department has one professor that serves as the chairperson of that department. Serving as a department chair is optional for professors.