

CPSC 332 File Structures and Database Systems

fall 2016 Term Project
Instructor: Dr. Shawn Wang

The Project:

The project is to be completed in groups. Each group has three students. The project will use MySQL database and PHP to build a web application. Please visit the class website and click on "Check Your Status" to see the account and password assigned to you.

You are asked to design a database for a university that satisfies the following requirements:

1. The database keeps information of each professor, including the social security number, name, address, telephone number, sex, title, salary, and college degrees. The address includes street address, city, state, and zip code. The telephone number includes the area code and 7 digit number.
2. Each department has a unique number, name, telephone, office location, and a chairperson who is a professor.
3. Each course has a unique number, title, textbook, units. Each course also has a set of prerequisite courses. Each course is offered by a department.
4. Each course may have several sections. Each section has a section number that is unique within the course, a classroom, meeting days, a beginning time, an ending time, a number of seats. Each section is taught by a professor.
5. The database keeps student records, including the campus wide ID, name, address, and telephone number. Each student majors in one department and may minor in several departments. The name includes first name and last name.
6. The database keeps enrollment records. Each record has a student, a course section, and a grade.

Design your database and create at least the following numbers of records:

1. 10 students;
2. 2 departments;
3. 3 professors;
4. 4 courses;
5. 8 sections;
6. 25 enrollment records.

You should provide interfaces for the following individuals:

For the professors:

- a. Given the social security number of a professor, list the titles, classrooms, meeting days and time of his/her classes.
- b. Given a course number and a section number, count how many students get each distinct grade, i.e. 'A', 'A-', 'B+', 'B', 'B-', etc.

For the students:

- a. Given a course number list the sections of the course, including the classrooms, the meeting days and time, and the number of students enrolled in each section.
- b. Given the campus wide ID of a student, list all courses the student took and the grades.

Here are what you need to turn in:

1. The ER diagram of your design;
2. The corresponding relational model with primary keys and foreign keys clearly specified (cf. Fig. 9.2 on page 291);
3. The source code of the project, including the DDL you used to create the tables and the SQL you used to implement the queries;
4. The interfaces you developed in screenshots;
5. Sample run of the system in screenshots, including inputs and output.
6. **The project should be uploaded in one of the accounts that are given to you on the department server. Only projects that are completed and tested on the server will receive full credits.**