Database Project

[Your Name]

Domain Description

Title: [Descriptive Name of Database, e.g. University Database]

[The University Database is designed to store and manage information related to a typical university. This database will include information about students, faculty, courses, departments, and other relevant entities. The purpose of the database is to provide a centralized repository of information that can be used to support various administrative and academic functions within the university.

Entities and Relationships
The University Database will include several key entities, each of which will be related to one another in various ways. These entities include:

Students: This entity will contain information about individual students, including their name, contact information, major, and other relevant details. Each student will be assigned a unique identifier to ensure that their information can be easily tracked and accessed.

Faculty: This entity will contain information about individual faculty members, including their name, contact information, department affiliation, and other relevant details. Each faculty member will be assigned a unique identifier to ensure that their information can be easily tracked and accessed.

Courses: This entity will contain information about individual courses offered by the university, including their title, course number, description, and other relevant details. Each course will be assigned a unique identifier to ensure that its information can be easily tracked and accessed.

Departments: This entity will contain information about the various departments within the university, including their name, contact information, and other relevant details. Each department will be assigned a unique identifier to ensure that its information can be easily tracked and accessed.

Enrollments: This entity will contain information about student enrollments in individual courses, including the course identifier and the student identifier. This relationship will allow the database to track which students are enrolled in which courses.

Faculty Assignments: This entity will contain information about faculty assignments to individual courses, including the course identifier and the faculty identifier. This relationship will allow the database to track which faculty members are assigned to which courses.]

Entity-Relationship Diagram

[Show a complete diagram of all entities, relationships, and attributes. Be sure to include mapping cardinalities, underlined primary keys, strong and weak entities, relationship sets, and relationship attributes. Such as the following diagram. (remove these and all instructions like this from your work)]

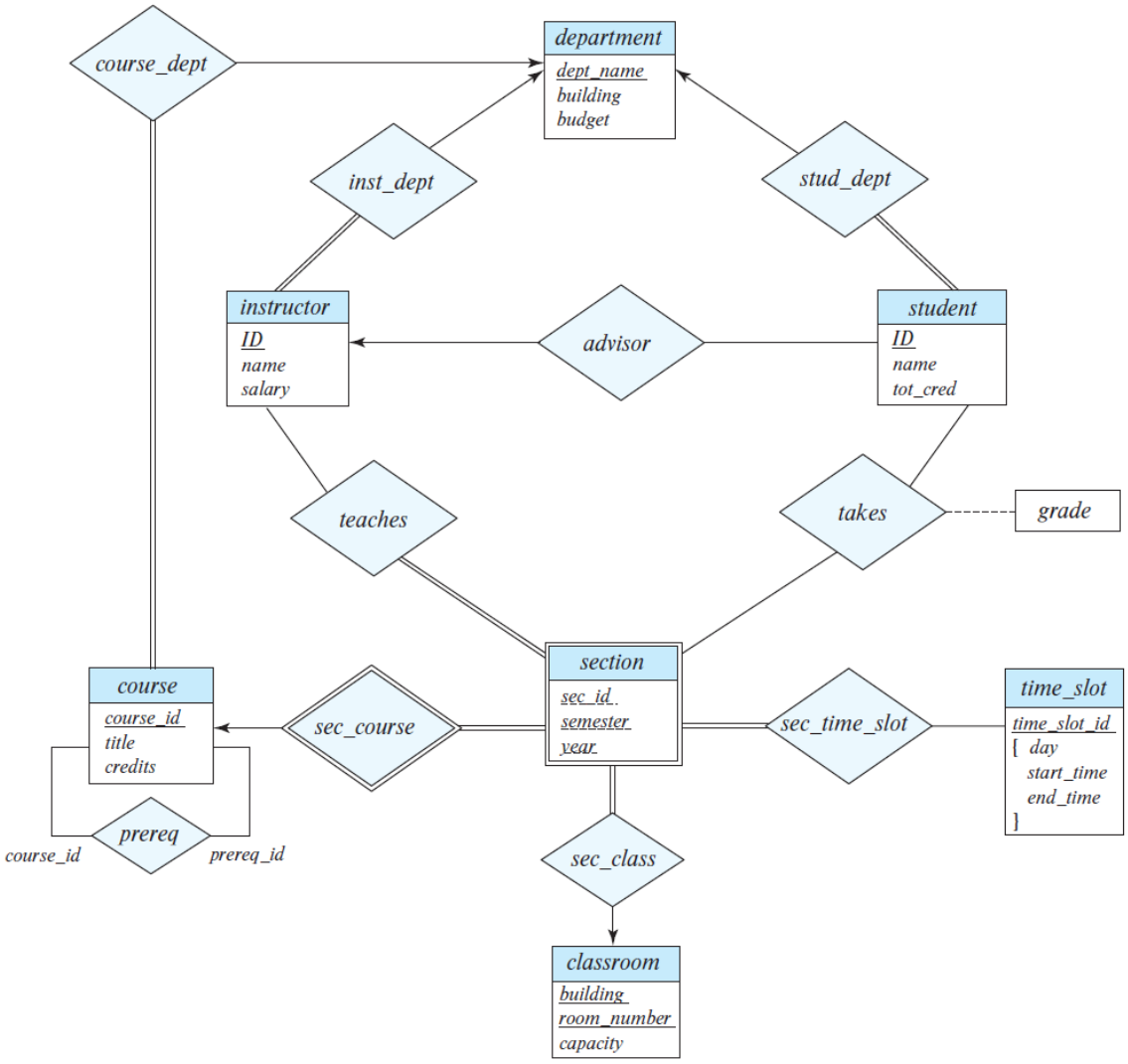

Figure 6.15 E-R diagram for a university enterprise.

TRINITY COLLEGE · DEPARTMENT OF COMPUTER SCIENCE

CPSC 372 Database Fundamentals, Spring 2023

Database Project, [Your Name]

Relational Schema

[Show a complete relational schema in either graphical or parenthetical form. For instance:]

classroom(building, room_number, capacity)
department(dept_name, building, budget)
course(course_id, title, dept_name, credits)
instructor(ID, name, dept_name, salary)
section(course_id, sec_id, semester, year, building, room_number, time_slot_id)
teaches(ID, course id, sec_id, semester, year)
student(ID, name, dept_name, tot cred)
takes(ID, course_id, sec_id, semester, year, grade)
advisor(s_ID, i_ID)
time slot(time_slot_id, day, start_time, end time)
prereq(course_id, prereq_id)

Boyce–Codd Normal Form Decomposition

[Show the testing steps and assumption involved to ensure the models satisfy BCNF:]

Transaction and Query Executions

[Show a complete all of the query executions defined in the project instructions. Each instruction should include 1) An English-written description of the query, the SQL query, and the result set. Please avoid screenshots and just provide the captured console text. (You may want to try the script tool for easy capturing of the console text, or some other redirection/copy/paste technique.)]

[Closing note: Remove all grey instructions like this one from your final report. Use this template to organize your final report. Submit your report as a PDF per the project instructions. Be sure everything is neat, organized, and readable. Feel free to add other sections or relevant information that may not have been included in this template. All your SQL must be executable in SQLite.]

The submission of this document re-confirms my adherence to the Student Handbook 2022-2023, pp. 4, 29