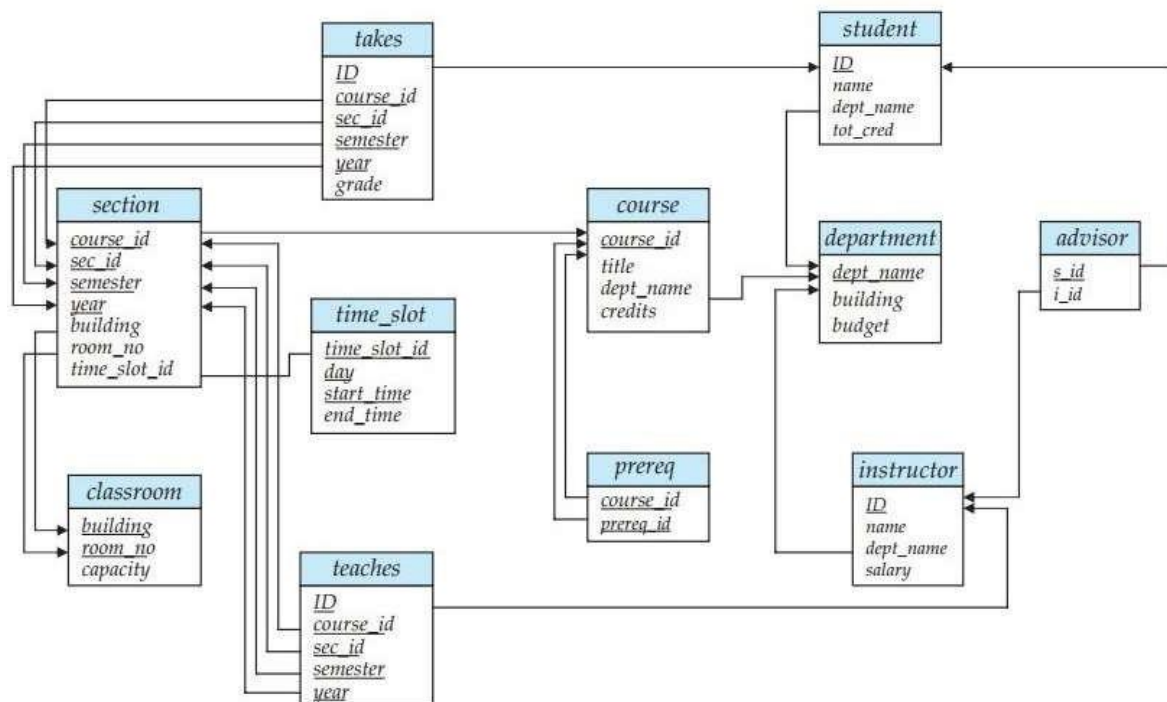




**United International University (UIU)**  
**Department of Computer Science & Engineering (CSE)**  
Spring 2023  
Course Code: CSE 3521  
**Course Title: Database Management Systems**

## Assignment – 1

**Task** Consider the following university database.



**Figure 2.8** Schema diagram for the university database.

**Give an expression in the relational algebra to express each of the following queries:**

- Find the names of all departments.
- Find the names of all instructors in the History department.
- Find the name of all instructors in Computer Science department with salary more than \$80,000.
- Find the titles of courses in the biology department that have 3 credits.
- Find the names of instructors whose salary amounts between \$90,000 and \$100,000.
- Find the name of all instructors who are associated with a department having budget of greater than \$95,000.

- g. Find the set of all courses taught either in Fall 2019 or in Spring 2020 Semester, or both.
- h. Find all courses taught in the Fall 2019 semester but not in the Spring 2020 Semester.
- i. Find the names of all instructors along with the titles of courses that they teach.
- j. Find the names of all students who have taken at least one Computer Science course.
- k. Find the IDs of all students who were taught by an instructor named Einstein.

**Submission**

**Submission deadline: 19/02/2023**

Submit a hardcopy during class.