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Relational Schemas:

Course(course_id, department, course_name, description, credits)

Instructor(instructor_id, name, department)

Student(student_id, name, student_type)

Section(course_id, section_id, semester, year)

FKs:

- course_id: references Course.course_id

Classroom(classroom_id, building, room_number, capacity)

Timeslot(timeslot_id, dateTime)

Offers: Support relation for weak entity set Section, meaning a relation would be redundant

Teaches(instructor_id, section_id)

FKs:

- instructor_id: references Instructor.instructor_id
- section_id: references Section.section_id

Constraints:

- An instructor can teach 0-4 sections of a course

Section_Scheduling(section_id, classroom_id, timeslot_id)

FKs:

- section_id: references Section.section_id

- classroom_id: references Classroom.classroom_id
- timeslot_id: references Timeslot.timeslot_id

Constraints:

- Only 1 section can occupy a given timeslot/classroom combination
- For a given timeslot_id, 0-4 sections can be scheduled concurrently in different classrooms

TA_Assignment(section_id, student_id)

FKs:

- section_id: references Section.section_id
- student_id: references Student.student_id

Grader_Assignment(section_id, student_id, student_grade)

FKs:

- section_id: references Section.section_id
- student_id: references Student.student_id

Constraints:

- A check that student_grade = 'A-' or student_grade = 'A', meaning the MS or Undergrad student had at least an A- in a course to ensure their qualification to be a grader

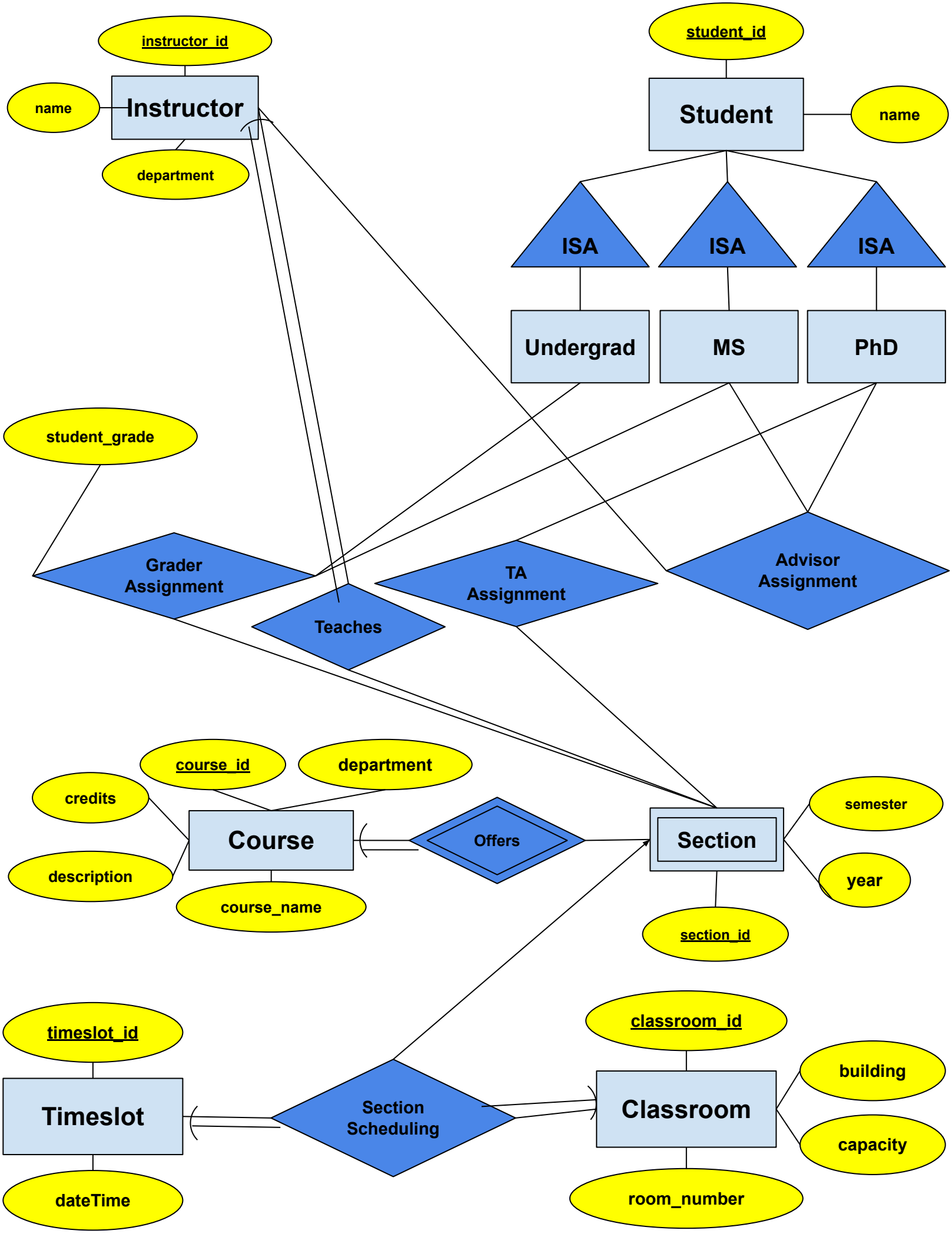
Advisor_Assignment(instructor_id, student_id)

FKs:

- instructor_id: references Instructor.instructor_id
- student_id: references Student.student_id

Constraints:

- An MS or PhD student must have at least 1 advisor


instructor_id
name
Instructor
department
student_id
Student
name
ISA
ISA
ISA
Undergrad
MS
PhD
student_grade
Grader Assignment
Teaches
TA Assignment
Advisor Assignment
course_id
department
credits
Course
description
course_name
Offers
Section
semester
year
section_id
timeslot_id
Timeslot
dateTime
Section Scheduling
classroom_id
Classroom
building
capacity
room_number