Relational schema

User(<u>id</u>, first_name, last_name, password, gender, email, address)

User_mobile(<u>user, mobile_number</u>)

User_mobile.user references User.id

Student(<u>id</u>, gpa)

Student.id references User.id

Where Student.gpa = average(Instructor_teaches_Student.final_grade) where Instructor_teaches_Student.student = Student.id

Admin(<u>id</u>)

Admin.id references User.id

Instructor(<u>id</u>, rating)

Instructor.id references User.id

Where Instructor.rating = average(Student_rate_Instructor.value) where Student_rate_Instructor.instructor = Instructor.id

Promo_code(<u>code</u>, issue_date, expiry_date, discount_amount, <u>issuer</u>)

Promo_code.issuer references Admin.id

Credit_card(<u>number</u>, card_holder_name, expiry_date, cvv)

Course(id, accepted, name, likes, credit_hours, description, price, content)

Comment(course, id, text)

Comment.course references Course.id

Assignment(course, number, deadline, full_grade, content, weight, type)

Assignment.course references Course.id

Student_Promo(student, code)

Student_Promo.student references student.id

Student_Promo.code references Promo_code.code

Student_rate_Instructor(student, instructor, value)

Student_rate_Instructor.student references student.id

Student_rate_Instructor.instructor references Instructor.id

Student_Card(student, card)

Student_Card.student references student.id

Student_Card.card references Credit_card.number

Student_pays_Course(student, course, card)

Student_pays_Course.student references student.id

Student_pays_Course.course references Course.id

Student_pays_Course.card references Credit_card.number

Student_Certificate(student, course, issue_date)

Student_Certificate.student references student.id

Student_Certificate.course references Course.id

Instructor_teaches_Student(instructor, <u>student, course</u>, final_grade)

Instructor_teaches_Student.instructor references Instructor.id

Instructor_teaches_Student.student references Student.id

Instructor_teaches_Student.course references Course.id

Where Instructor_teaches_Student.final_grade = weighted_sum(Student_Assignment.grade)

Student_Assignment(<u>student, course, assignment_id</u>, grade)

Student_Assignment.student references Student.id

Student_Assignment.course references Course.id

Student_Assignment.assignment_id references Assignment.number

Instructor_Add_Instructor(id1, <u>id2, course</u>)

Instructor_Add_Instructor.id1 references Instructor.id

Instructor_Add_Instructor.id2 references Instructor.id

Instructor_Add_Instructor.course references Course.id

Student_comment(<u>student, course,comment_id</u>, text)

Student_comment.student references Student.id

Student_comment.course references Course.id

Student_comment.comment_id references Comment.id

Prerequisite(<u>id1, id2</u>)

Prerequisite.id1 references Course.id

Prerequisite.id2 references Course.id