Functional Dependencies Applicable to Our Tables

**Student**

***FDs:*** StudentID -> StudentName

There is exactly one StudentName for each StudentID, but there could be 2 or more students with the same name.

**Pays**

***FDs:***   CourseID,StudentID -> billNum

             billNum ->  CourseID,StudentID

The CourseID determines the cost of the particular course, after the payment by the student, each gets a particular billNum for the fees paid.

**Course**

***FDs:*** CourseID->Credits, Subject

Each CourseID functionally determines the credits and subject for that course.

**Fees**

***FDs:*** CourseID -> amountDue

Any given instance of CourseID has an amountDue.

billNum -> amountDue

Any given instance of billNum has an amountDue.

**Schedules\_Room**

FOREIGN KEY(courseID) REFERENCES Course)

***FDs:*** roomID -> capacity, type

roomID functionally determines the capacity and type of room

courseID, roomID -> daysofWeek, timeSlot

There is exactly one daysofWeek and timeSlot schedule for any given combination of instances for courseID and roomID.

**Takes**

***FDs***: StudentID -> CourseID

Many CourseIDs exist for any given instance of StudentID.

CourseID -> StudentID

Many StudentIDs exist for any given instance of CourseID.

**Professor**

***FDs***: StudentID -> CourseID

Many CourseIDs exist for any given instance of StudentID.

CourseID -> StudentID

Many StudentIDs exist for any given instance of CourseID.

**Research**

***FDs:*** rID, profID -> Thesis, Grant, labLocation

There is exactly one combination of Thesis, Grant and labLocation for any given instance of rID and profID.

**TA**

***FDs:*** TAID -> State, WageperHour

Any given TA ID instance provides information on whether or not the TA is working (the state of the TA) and what their earnings per hour are (wage).

**TAsCourse**

***FDs:*** CourseID -> TAID

A course ID can determine which TAs are TAing the course

TAID, CourseID -> Hours

A given course ID and TAID determine the hours a TA has worked on the given course.

**TAHelpsResearch**

***FDs***: rID, profID -> TAID

rID and profID functionally determine TAID

Any given instance of a research ID and a professor ID determines which TA is helping that particular research and prof.

TAID, profID -> rID

TAID and profID functionally determine rID

Any given instance of a professor ID and a TA ID determine which research through the research ID they are working on.