

```

User_Account(
    User_Id PK,
    User_Name,
    Password,
    Role,      -- e.g. 'student' or 'instructor'
    Is_Active
)
Student(
    User_Id PK, FK -> User_Account(User_Id),
    First_Name,
    Last_Name,
    Std_PhoneNo,
    Std_Email,
    Std_Gender,
    Std_Age,
    Std_City,
    Std_Street,
    Std_ZipCode,
    Track_Id FK -> Track(Track_Id)
)
Instructor(
    User_Id PK, FK -> User_Account(User_Id),
    Ins_Name,
    Ins_Gender,
    Ins_PhoneNum,
    Ins_Email,
    Ins_Salary,
    Ins_DOB,
    Ins_City,
    Ins_Street
)
Track(
    Track_Id PK,
    Track_Name
)
Course(
    Crs_Id PK,
    Crs_Name,
    Instructor_UserId FK -> Instructor(User_Id) -- the instructor who teaches the course
)
Track_Course(
    Track_Id PK, FK -> Track(Track_Id),
    Crs_Id PK, FK -> Course(Crs_Id)
)
Topic(
    Topic_Id PK,
    Topic_Name
)

```

**Crs\_Topic(**

Crs\_Id PK, FK -> Course(Crs\_Id),  
Topic\_Id PK, FK -> Topic(Topic\_Id)

)

**Student\_Course(**

User\_Id PK, FK -> Student(User\_Id), -- student (from User\_Account)  
Crs\_Id PK, FK -> Course(Crs\_Id),  
Attend\_Status -- e.g. 'enrolled', 'dropped', 'completed'

)

**Exam(**

Ex\_No PK,  
Ex\_Duration,  
Ex\_Date,  
Crs\_Id FK -> Course(Crs\_Id)

)

**Question(**

Qus\_No PK,  
Qus\_Text,  
Qus\_Type, -- e.g. 'MCQ', 'TF', 'Essay'  
Correct\_Answer -- (for MCQ may be a choice id or canonical text)

)

**Choice(**

Choice\_Id PK,  
Qus\_No FK -> Question(Qus\_No),  
Choice\_Text

)

**Exam\_Question(**

Ex\_No PK, FK -> Exam(Ex\_No),  
Qus\_No PK, FK -> Question(Qus\_No)

)

**Student\_Exam\_Grade(**

Ex\_No PK, FK -> Exam(Ex\_No),  
User\_Id PK, FK -> Student(User\_Id),  
Grade

)

**Student\_Exam\_Ans(**

ID PK, -- surrogate key for each answer record  
Ex\_No FK -> Exam(Ex\_No),  
User\_Id FK -> Student(User\_Id),  
Qus\_No FK -> Question(Qus\_No),  
Choice\_Id FK -> Choice(Choice\_Id),  
Answer\_Text

)

