



3rd Normal Form relational schema:

Entity set

student(id, ssn, first_name, last_name, middle_name, resident_status)

period(id, begin, end)

- id is a foreign key referencing to student(id)

degree_earned(id, degree_id, degree_type, school)

- id is a foreign key referencing to student(id)

probation_status(id, start, end, reason)

- id is a foreign key referencing to student(id)

undergraduate(id, major, minor, college)

- id is a foreign key referencing to student(id)

BS_MS(id, department, major, minor, college)

- id is a foreign key referencing to student(id)

graduate(id, department)

- id is a foreign key referencing to student(id)

MS(id, department)

- id is a foreign key referencing to student(id)

PhD_candidates(id, department)

- id is a foreign key referencing to student(id)

Pre_candidacy(id, department)

- id is a foreign key referencing to student(id)

degree(degree_id, upper_units, lower_units, min_grade)

MS_degree(degree_id, concentration_min_grade, concentration_courses, concentration_total_units)

- degree_id is a foreign key referencing degree(degree_id)

other_degrees(degree_id)

- degree_id is a foreign key referencing degree(degree_id)

faculty(faculty_name, member_names, member_titles)

classes(section_id, title, year, quarter, enrollment_limit)

meeting_sections(section_id, date, time, room, building)

- section_id are foreign keys referencing to classes(section_id)

- date is limited to Monday to Friday

weekly(section_id, mandatory, discussion, lecture, lab)

- section_id are foreign keys referencing to classes(section_id)

review(section_id)

- section_id are foreign keys referencing to classes(section_id)

courses(new_number, old_number, grade, units, department, prerequisites, lab_requirements)

relationship set

Probation(id, begin)

- id is a foreign key referencing to Student(id)
- begin is a foreign key referencing Probation_Status(begin)

Department Requirement(degree_id, id)

- degree_id is a foreign key referencing to Degree(degree_id)
- id is a foreign key referencing to Student(id)

thesis_committee(faculty_name, id)

- faculty_name is a foreign key referencing to Faculty(faculty_name)
- id is a foreign key referencing to Student(id)

enrolled(id)

- id is a foreign key referencing to Student(id)

waitlist(id, section_id)

- id is a foreign key referencing to Student(id)
- section_id is a foreign key referencing to Class(section_id)

correspond(section_id, new_number)

- section_id is a foreign key referencing to Class(section_id)
- new_number is a foreign key referencing to Courses(new_number)

attendant(id, begin)

- id is a foreign key referencing to student(id)
- begin is a foreign key referencing Period(begin)

history_status(id, school)

- id is a foreign key referencing to student(id)

- school is a foreign key referencing to Degree_Earned(school)

teaching(section_id, faculty_name)

- section_id is a foreign key referencing to class(section_id)
- faculty_name is a foreign key referencing to faculty(faculty_name)

meetings(section_id, date, time, room, building)

- section_id is a foreign key referencing to class(section_id)
- date is a foreign key referencing to meeting_sections(date)
- time is a foreign key referencing to meeting_sections(time)
- room is a foreign key referencing to meeting_sections(room)
- building is a foreign key referencing to meeting_sections(building)

thesis_committee(id, faculty_name)

- section_id is a foreign key referencing to class(section_id)
- faculty_name is a foreign key referencing to faculty(faculty_name)

advisor(id, faculty_name)

- section_id is a foreign key referencing to class(section_id)
- faculty_name is a foreign key referencing to faculty(faculty_name)

Assumptions:

1. Assume students who cannot get grades from enrolled classes are considered as incomplete.
2. Assume a course may have many classes with different section id.
3. If students are on the waitlist, it is assumed that they can be on the waitlist of many different classes.
4. Assume that students cannot have more than one major or minor even though they are able to be undergraduate or graduate.
5. Assume the consent of the instructor also belongs to the prerequisite to enroll in a course even though it does not list specifically required courses.
6. Assume only PhD candidates need one or more advisors.
7. In the probation_status entity, assume begin attribute is unique
8. Degree_id is unique for all degrees.
9. Assume other_degrees includes all degrees except MS_degree
10. New_number is unique for all courses