DMBS  
Course Table

CREATE TABLE course(

course\_id VARCHAR(8),

title VARCHAR(15),

dept\_name VARCHAR(20),

credits NUMERIC(2) CHECK (credits>0),

PRIMARY KEY(course\_id),

FOREIGN KEY(dept\_name) REFERENCES department (dept\_name) ON DELETE SET NULL);

Section Table

CREATE TABLE section(

course\_id VARCHAR(8),

sec\_id VARCHAR(6),

semester VARCHAR(10) CHECK (semester IN ('Fall', 'Winter', 'Spring', 'Summer')),

year NUMERIC(4) CHECK (year>1701 and year<2100),

building VARCHAR(15),

room\_number VARCHAR(10),

time\_slot\_id VARCHAR(8),

PRIMARY KEY(course\_id,sec\_id,semester,year),

FOREIGN KEY(course\_id) REFERENCES course(course\_id) ON DELETE CASCADE,

FOREIGN KEY(building,room\_number) REFERENCES classroom(building,room\_number) ON DELETE SET NULL);

Teaches Table

CREATE TABLE teaches(

ID VARCHAR(11),

course\_id VARCHAR(8),

sec\_id VARCHAR(6),

semester VARCHAR(10),

year NUMERIC(4),

PRIMARY KEY(ID, course\_id, sec\_id,semester, year),

FOREIGN KEY(course\_id, sec\_id,semester, year) REFERENCES section(course\_id, sec\_id,semester, year) ON DELETE CASCADE,

FOREIGN KEY(ID) REFERENCES instructor (ID) ON DELETE CASCADE);

Student Table

CREATE TABLE student(

ID VARCHAR(11),

name VARCHAR(15) NOT NULL,

dept\_name VARCHAR(20),

tot\_cred NUMERIC(3) CHECK (tot\_cred>=0),

PRIMARY KEY(ID),

FOREIGN KEY(dept\_name) REFERENCES department (dept\_name) ON DELETE SET NULL

);

Takes Table

CREATE TABLE takes(

ID VARCHAR(11),

course\_id VARCHAR(8),

sec\_id VARCHAR(6),

semester VARCHAR(10),

year NUMERIC(4),

grade VARCHAR(2),

PRIMARY KEY(ID, course\_id, sec\_id, semester, year),

FOREIGN KEY(course\_id, sec\_id, semester, year) REFERENCES section (course\_id, sec\_id, semester, year) ON DELETE CASCADE,

FOREIGN KEY(ID) REFERENCES student (ID) ON DELETE CASCADE

);

Advisor Table

CREATE TABLE advisor(

s\_ID VARCHAR(11),

i\_ID VARCHAR(11),

PRIMARY KEY(s\_ID),

FOREIGN KEY(i\_ID) REFERENCES instructor (ID) ON DELETE SET NULL,

FOREIGN KEY(s\_ID) REFERENCES student (ID) ON DELETE CASCADE

);

Prereq Table

CREATE TABLE prereq(

course\_id VARCHAR(8),

prereq\_id VARCHAR(8),

PRIMARY KEY(course\_id, prereq\_id),

FOREIGN KEY(course\_id) REFERENCES course (course\_id) ON DELETE CASCADE,

FOREIGN KEY(prereq\_id) REFERENCES course (course\_id)

);

Timeslot

CREATE TABLE timeslot(

time\_slot\_id VARCHAR(8),

day VARCHAR(1) CHECK (day in('M', 'T', 'W', 'R', 'F','S', 'U')),

start\_time time,

end\_time time,

PRIMARY KEY( time\_slot\_id, day, start\_time)

);

Advisor Insert code

INSERT INTO advisor(s\_ID, i\_ID)

VALUES(00128, 45565),(12345, 10101), (23121, 76543), (44553, 22222), (45678, 22222), (76543, 45565), (76653, 98345), (98765, 98345), (98988, 76766);

Course Insert code

INSERT INTO course(course\_id, title, dept\_name, credits)

VALUES

("BIO-101","Intro. to Biology","Biology",4),

("BIO-301","Genetics","Biology",4),

("BIO-399","Computational Biology","Biology",3),

("CS-101","Intro. to Compuetr Science","Comp.Sci.",4),

("CS-190","Game Design","Comp.Sci.",4),

("CS-315","Robotics","Comp.Sci.",3),

("CS-319","Image Processing","Comp.Sci.",3),

("CS-347","Databse System Concepts","Comp.Sci.",3),

("EE-181","Intro. to Digital Systems","Elec.Eng.",3),

("FIN-201","Investment Banking","Finance",3),

("HIS-351","World History","History",3),

("MU-199","Music Video Production","Music",3),

("PHY-101","Physical Principles","Physics",4);

Student Insert code

INSERT INTO student(ID, name, dept\_name, tot\_cred)

VALUES

(00128,"Zhang","Comp.Sci.",102),

(12345,"Shankar","Comp.Sci.",32),

(19991,"Brandt","History",80),

(23121,"Chavez","Finance",110),

(44553,"Peltier","Physics",56),

(45678,"Levy","Physics",46),

(54321,"Williams","Comp.Sci.",54),

(55739,"Sanchez","Music",38),

(70557,"Snow","Physics",0),

(76543,"Brown","Comp.Sci.",58),

(76653,"Aoi","Elec.Eng.",60),

(98765,"Bourikas","Elec.Eng.",98),

(98988,"Tanaka","Biology",120);

Timeslot Insert code

INSERT INTO timeslot(time\_slot\_id, day, start\_time, end\_time)

VALUES

("A","M","8:00","8:50"),

("A","W","8:00","8:50"),

("A","F","8:00","8:50"),

("B","M","9:00","9:50"),

("B","W","9:00","9:50"),

("B","F","9:00","9:50"),

("C","M","11:00","11:50"),

("C","W","11:00","11:50"),

("C","F","11:00","11:50"),

("D","M","13:00","13:50"),

("D","W","13:00","13:50"),

("D","F","13:00","13:50"),

("E","T","10:30","11:45"),

("E","R","10:30","11:45"),

("F","T","14:30","15:45"),

("F","R","14:30","15:45"),

("G","M","16:00","16:50"),

("G","W","16:00","16:50"),

("G","F","16:00","16:50"),

("H","W","10:00","12:30");

Takes Insert Table

INSERT INTO takes(ID, course\_id, sec\_id,semester,year,grade)

VALUES

(00128,"CS-101",1,"Fall",2009,"A"),

(00128,"CS-347",1,"Fall",2009,"A-"),

(12345,"CS-101",1,"Fall",2009,"C"),

(12345,"CS-190",2,"Spring",2009,"A"),

(12345,"CS-315",1,"Spring",2010,"A"),

(12345,"CS-347",1,"Fall",2009,"A"),

(19991,"HIS-351",1,"Spring",2010,"B"),

(23121,"FIN-201",1,"Spring",2010,"C+"),

(44553,"PHY-101",1,"Fall",2009,"B-"),

(45678,"CS-101",1,"Fall",2009,"F"),

(45678,"CS-101",1,"Spring",2010,"B+"),

(45678,"CS-319",1,"Spring",2010,"B"),

(54321,"CS-101",1,"Fall",2009,"A-"),

(54321,"CS-190",2,"Spring",2009,"B+"),

(55739,"MU-199",1,"Spring",2010,"A-"),

(76543,"CS-101",1,"Fall",2009,"A"),

(76543,"CS-319",2,"Spring",2010,"A"),

(76653,"EE-181",1,"Spring",2009,"C"),

(98765,"CS-101",1,"Fall",2009,"C-"),

(98765,"CS-315",1,"Spring",2010,"B"),

(98988,"BIO-101",1,"Summer",2009,"A"),

(98988,"BIO-301",1,"Summer",2010,"NULL");