Room

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	NULL
number	STRING	
type	FOREIGN KEY (RoomType -> id)	
building	FOREIGN KEY (Building -> id)	
	UNIQUE (building, name)	
	UNIQUE (building, number)	

Building

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	
address	STRING	

Feature

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

RoomType

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

hasFeature (Room, Feature)

Column	Type	Constraint
room	FOREIGN KEY (Room -> id)	
feature	FOREIGN KEY (Feature -> id)	
quantity	INTEGER	>= 0
	PRIMARY KEY (room, feature)	

Department

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

givesCourse (Lecturer, Course)

Column	Type	Constraint
lecturer	FOREIGN KEY (Lecturer -> id)	
course	FOREIGN KEY (Course -> id)	
priority	FLOAT	

Timeslot

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
day	FOREIGN KEY (Day -> id)	

Day

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

roomNotAvailable (Room, Timeslot)

Column	Type	Constraint
room	FOREIGN KEY (Room -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
	PRIMARY KEY (room, timeslot)	

lecturerPrefers (Lecturer, Timeslot)

Column	Type	Constraint
lecturer	FOREIGN KEY (Lecturer -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
priority	FLOAT	
	PRIMARY KEY (lecturer, timeslot)	

lecturerNotAvailable (Lecturer, Timeslot)

Column	Type	Constraint
lecturer	FOREIGN KEY (Lecturer -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
	PRIMARY KEY (lecturer, timeslot)	

roomPreferablyBookedAt (Room, Timeslot)

Column	Type	Constraint
room	FOREIGN KEY (Room -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
priority	FLOAT	
	PRIMARY KEY (room, timeslot)	

Person

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
first_name	STRING	
last_name	STRING	
mail_address	STRING	UNIQUE
login_name	STRING	
is_superuser	BOOLEAN	DEFAULT false
created	TIMESTAMP	
deleted	TIMESTAMP	NULL

Lecturer

Column	Type	Constraint
id	FOREIGN KEY (Person -> id)	
lecturer_id	STRING	UNIQUE
	PRIMARY KEY (id)	

Student

Column	Type	Constraint
id	FOREIGN KEY (Person -> id)	
student_id	STRING	UNIQUE
	PRIMARY KEY (id)	

Staff

Column	Type	Constraint
id	FOREIGN KEY (Person -> id)	
staff_id	STRING	UNIQUE
working_hours	INTEGER	>= 0
	PRIMARY KEY (id)	

Group

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

Role

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

Permission

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

hasPermission (User, Permission)

Column	Type	Constraint
user	FOREIGN KEY (User -> id)	
permission	FOREIGN KEY (Permission -> id)	
target	STRING	NULL
	PRIMARY KEY (user, permission, target)	

hasRole (User, Role)

Column	Type	Constraint
user	FOREIGN KEY (User -> id)	
role	FOREIGN KEY (Role -> id)	
	PRIMARY KEY (user, role)	

impliesPermission (Role, Permission)

Column	Type	Constraint
role	FOREIGN KEY (Role -> id)	
permission	FOREIGN KEY (Permission -> id)	
target	STRING	NULL
	PRIMARY KEY (role, permission, target)	

isInGroup (User, Group)

Column	Type	Constraint
user	FOREIGN KEY (User -> id)	
group	FOREIGN KEY (Group -> id)	
	PRIMARY KEY (user, group)	

takesPartIn (Lecturer, Room)

Column	Type	Constraint
event	FOREIGN KEY (Event -> id)	
lecturer	FOREIGN KEY (Lecturer -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
	UNIQUE (lecturer, timeslot)	
	PRIMARY KEY (event, lecturer)	

hasPassedCourse (Student, Course)

Column	Type	Constraint
student	FOREIGN KEY (Student -> id)	
course	FOREIGN KEY (Course -> id)	
grade	STRING	NULL
notes	TEXT	NULL
	PRIMARY KEY (student, course)	

Course

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE
description	TEXT	NULL

CourseElement

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	NULL
part_of	FOREIGN KEY (Course -> id)	
duration	INTEGER	>= 1
type	FOREIGN KEY (CourseElementType -> id)	
required	BOOLEAN	DEFAULT true

CourseInstance

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
program	FOREIGN KEY (Program -> id)	

CourseElementInstance

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
course_instance	FOREIGN KEY (CourseInstance -> id)	
course_element	FOREIGN KEY (CourseElement -> id)	

Event

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
element_instance	FOREIGN KEY (CourseElementInstance)	
starting_timeslot	FOREIGN KEY (Timeslot -> id)	
duration	INTEGER	>= 1
locked	BOOLEAN	DEFAULT false
scheduled	BOOLEAN	DEFAULT false
scheduler_score	FLOAT	DEFAULT 0

requiresCourse (Course, Course)

Column	Type	Constraint
course	FOREIGN KEY (Course -> id)	
dependency	FOREIGN KEY (Course -> id)	
	PRIMARY KEY (course, dependency)	

Year

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

Program

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
period	FOREIGN KEY (Period -> id)	
department	FOREIGN KEY (Department -> id)	

CourseElementType

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
name	STRING	UNIQUE

recommendedInYear (Course, Year)

Column	Type	Constraint
course	FOREIGN KEY (Course -> id)	
year	FOREIGN KEY (Year -> id)	
	PRIMARY KEY (course, year)	

enrolledInCourse (User, CourseInstance)

Column	Type	Constraint
user	FOREIGN KEY (User -> id)	
course_instance	FOREIGN KEY (CourseInstance -> id)	
	PRIMARY KEY (user, course_instance)	

Period

Column	Type	Constraint
id	INTEGER	PRIMARY KEY
start	DATE	
end	DATE	// after start
name	STRING	UNIQUE

takesPlaceIn (Event, Room)

Column	Type	Constraint
event	FOREIGN KEY (Event -> id)	
room	FOREIGN KEY (Room -> id)	
timeslot	FOREIGN KEY (Timeslot -> id)	
	UNIQUE (room, timeslot)	
	PRIMARY KEY (event, room)	