

INFO601: DATABASE MODELLING AND SQL

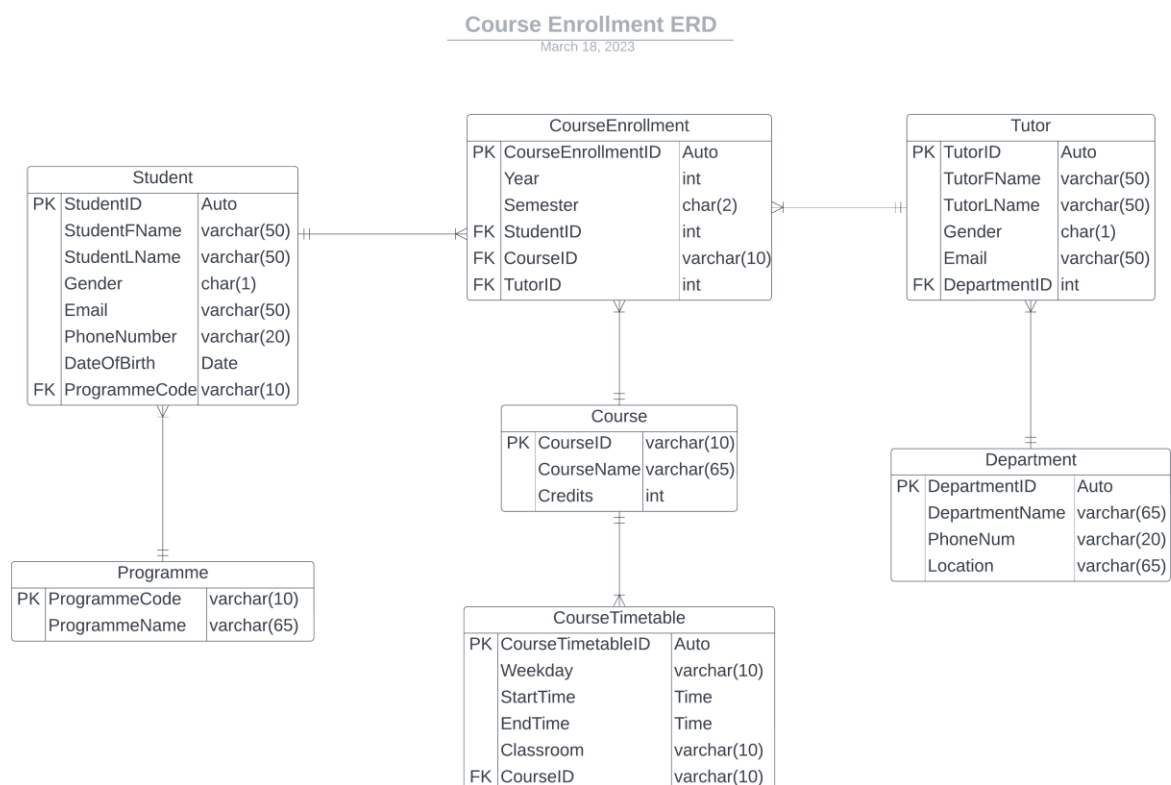
LEARNING OUTCOMES

This assessment covers selected topics from learning outcomes 1 and 2.

1. Apply advance database design and modelling techniques.
2. Apply advance Structured Query Language (SQL) techniques.

TASK – DATA DICTIONARY

Create the data dictionary for the following ERD –



Solution

Programme		
PK	ProgrammeCode	varchar(10)
	ProgrammeName	varchar(65)

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
ProgrammeCode	varchar	10	PK			
ProgrammeName	varchar	65		NOT NULL		

Student		
PK	StudentID	Auto
	StudentFName	varchar(50)
	StudentLName	varchar(50)
	Gender	char(1)
	Email	varchar(50)
	PhoneNumber	varchar(20)
	DateOfBirth	Date
FK	ProgrammeCode	varchar(10)

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
StudentID	int		PK			
StudentFName	varchar	50		NOT NULL		
StudentLName	varchar	50		NOT NULL		
Gender	char	1				M, F, O
Email	varchar	50		NOT NULL		
PhoneNumber	varchar	20		NOT NULL		
DateOfBirth	Date					
ProgrammeCode	varchar	10	FK	NOT NULL		

Course		
PK	CourseID	varchar(10)
	CourseName	varchar(65)
	Credits	int

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseID	varchar	10	PK			
CourseName	varchar	65		NOT NULL		
Credits	Int			NOT NULL		

CourseTimetable		
PK	CourseTimetableID	Auto
	Weekday	varchar(10)
	StartTime	Time
	EndTime	Time
	Classroom	varchar(10)
FK	CourseID	varchar(10)

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseTimetableID	int		PK			
Weekday	varchar	10		NOT NULL		
StartTime	Time			NOT NULL		
EndTime	Time			NOT NULL		
Classroom	varchar	10		NOT NULL		
CourseID	varchar	10	FK	NOT NULL		

Department		
PK	DepartmentID	Auto
	DepartmentName	varchar(65)
	PhoneNum	varchar(20)
	Location	varchar(65)

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
DepartmentID	int		PK			
DepartmentName	varchar	65		NOT NULL		
PhoneNum	varchar	20		NOT NULL		
Location	varchar	65		NOT NULL		

Tutor		
PK	TutorID	Auto
	TutorFName	varchar(50)
	TutorLName	varchar(50)
	Gender	char(1)
	Email	varchar(50)
FK	DepartmentID	int

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
TutorID	int		PK			
TutorFName	varchar	50		NOT NULL		
TutorLName	varchar	50		NOT NULL		
Gender	char	1				M, F, O
Email	varchar	50		NOT NULL		
DepartmentID	int		FK	NOT NULL		

CourseEnrollment		
PK	CourseEnrollmentID	Auto
	Year	int
	Semester	char(2)
FK	StudentID	int
FK	CourseID	varchar(10)
FK	TutorID	int

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseEnrollmentID	int		PK			
Year	int			NOT NULL		
Semester	char	2		NOT NULL		S1, S2
StudentID	int		FK	NOT NULL		
CourseID	varchar	10	FK	NOT NULL		
TutorID	int		FK	NOT NULL		