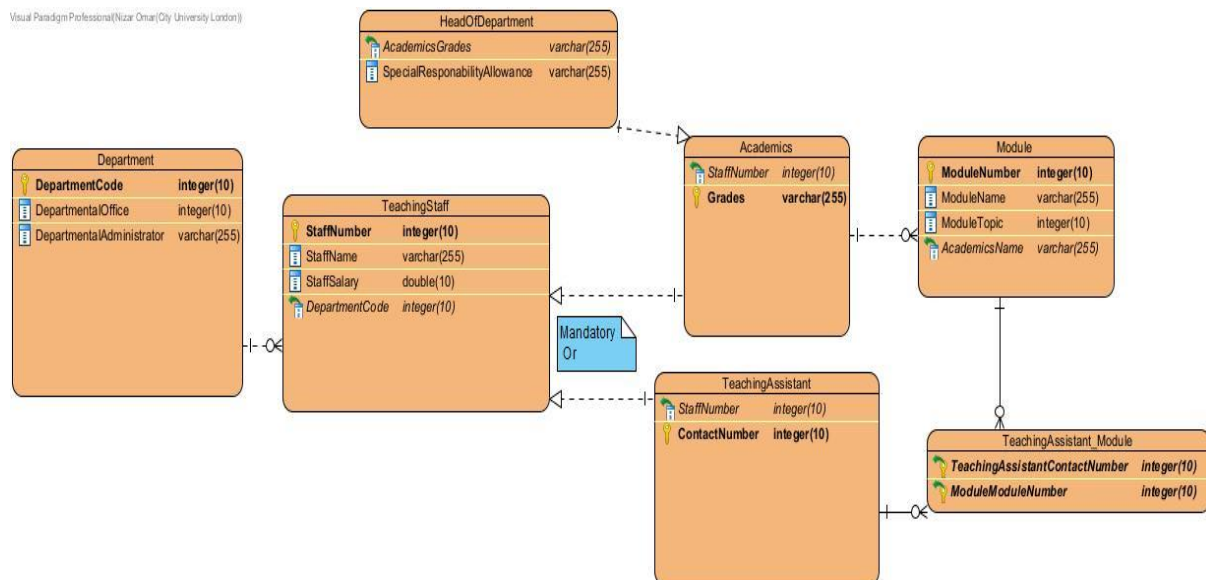


ER Modelling Exercise - SMCSE

The School of Mathematics, Computer Science and Engineering is composed of several departments. Each **department** is identified by a **code**, has a **departmental office (office number)** and a **departmental administrator (administrator name)**. Each department has **teaching staffs** that teach modules. Each **teaching staff** member has a **staff number**, a **name**, and a **salary**. Teaching staff are **either Academics or Teaching Assistants**. Academics have **grades**, while Teaching Assistants have **contracts** (Contract Number). Most Academics are responsible for **one or more modules (module number, module name, topic)**, and a module is the **responsibility of only one Academic**. Teaching Assistants must assist with **teaching one or more modules**. Module can have **several Teaching Assistants**. In each department, one of the Academics acts as the **Head of Department**, and they have a **special responsibility allowance**.

Design an E-R diagram for the above database.

Derive a corresponding relational scheme from your E-R diagram.



Department(**DepartmentCode**, DepartmentOffice, DepartmentalAdministrator)

TeachingStaff(**StaffNumber**, StaffName, StaffSalary, DepartmentCode)

FOREIGN KEY DepartmentCode references Department(DepartmentCode)

Academics(**StaffNumber**, Grades)

FOREIGN KEY StaffNumber references TeachingStaff(StaffNumber)

TeachingAssistant(**StaffNumber**, **ContactNumber**)

FOREIGN KEY StaffNumber references TeachingStaff(StaffNumber)

HeadOfDepartment(AcademicsGrades, SpecialResponsibilityAllowance)

FOREIGN KEY AcademicsGrade references Academics (AcademicsGrade)

Module(**ModuleNumber**, ModuleName, ModuleTopic, AcademicsName)

FOREIGN KEY AcademicsName references Academics (AcademicsName)

TeachingAssistant_Module(**TeachingAssistantContractNumber,ModuleModuleNumber**)

FOREIGN KEY TeachingAssistantContractNumber references

TeachingAssistant(ContractNumber)

FOREIGN KEY ModuleModuleNumber references Module (ModuleNumber)