**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.
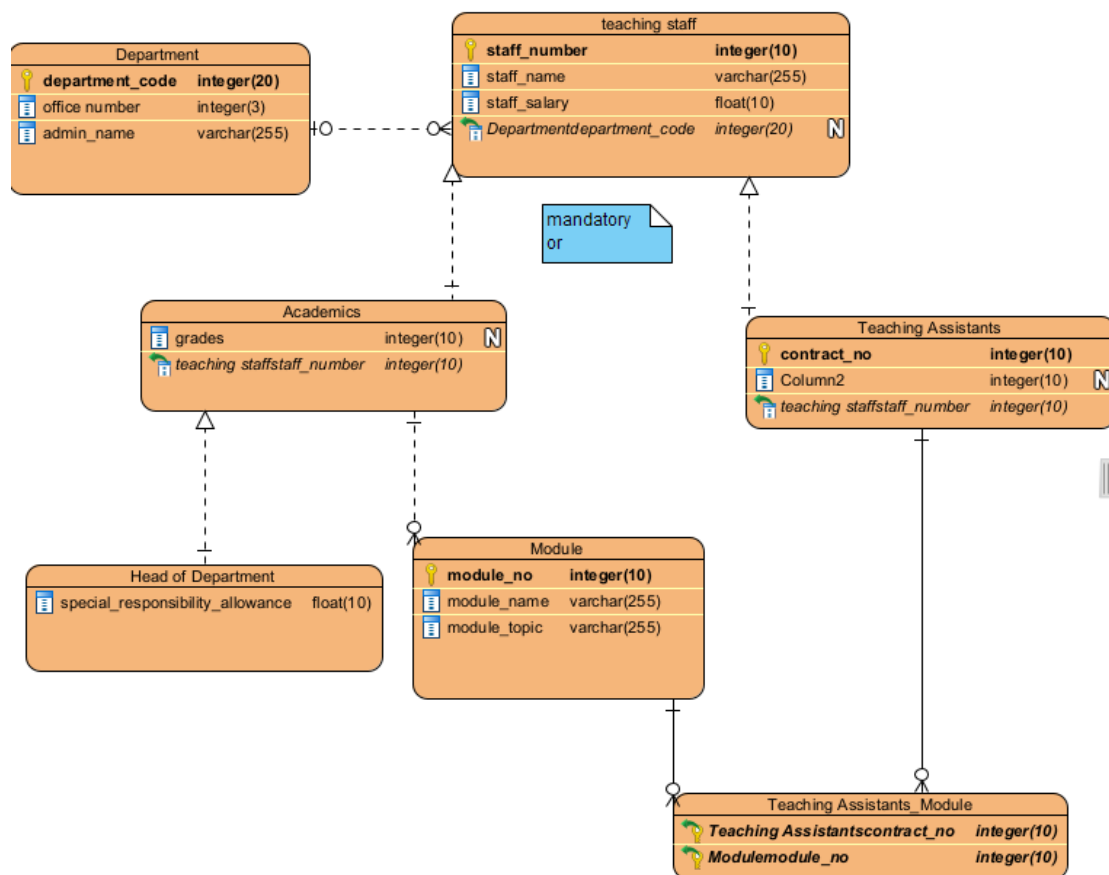
Relational Scheme:

Department (**department_code**, office number, admin_name)

Teaching Staff (**staff_number**, staff_name, staff_salary, Departmentdepartment_code)
 FOREIGN KEY Departmentdepartment_code REFERENCES Department (Departmentdepartment_code)

Academics(grades, teaching staffstaff_number)
FOREIGN KEY teaching staffstaff_number REFERENCES teaching staff (teaching staffstaff_number)

Teaching Assistants(**contract_no** , teaching staffstaff_number)
FOREIGN KEY teaching staffstaff_number REFERENCES teaching staff (teaching staffstaff_number)

Head of Department(special_responsibility_allowance)

Module(**module_no**, module_name, module_topic)

Teaching Assistants_Module(**Teaching Assistantscontract_no, Modulemodule_no**)
FOREIGN KEY Teaching Assistantscontract_no REFERENCES Teaching Assistants (Teaching Assistantscontract_no)
FOREIGN KEY Teaching Assistantscontract_no REFERENCES Teaching Assistants (Teaching Assistantscontract_no)