## ICT @ Brooke Weston Academy

Unit 06 (AO2) – Advanced Databases

**Produce the database according to the design**

**Scenario**

Cube Systems have been very successful with their sales of customised computers and software. This has resulted in the need to store large quantities of data and produce a variety of well structured reports. Knowing the power of Relational Databases to store the large amounts of data and produce reports, they have decided to develop a Relational Database for their customers and sales.

REMEMBER:

* Customers choose the configuration of computer based on multiple choices such as the speed of the processor, size of the RAM, monitor or hard drive and software.
* Certain options do attract discounts and customers have delivery options such as next day, 2 day or 4 day which all have different price points – if the customer spends over a certain price point they will get free delivery.

Cube systems would like a fully functional and automatic Relational Database system which could incorporate:

* ***A customer page*** – where customers can be added, edited and viewed
* ***A customer orders page*** – where customer orders can be viewed
* ***A product page*** – where all the products for sales can be added, edited and viewed
* ***A ordering page*** – where all the orders can be added, edited and viewed
* ***A invoice page*** – where the user selects what the customer requires and prints the invoice
* ***A reporting page*** – where reports such as the analysis of:
  + Orders of any particular product
  + Profit made on each product
  + Tracking of customer orders and purchases
  + Calculating totals of ordered product over a given period
  + Customers traced based on any other information required

Focusing on the business, you need to produce a database that will store information within a relational database, covering the following **7** tasks within this case study:

* 1. Leszynski Naming Convention – Standardising your Database
  2. Tables
  3. Relationships
  4. Input Data into the Tables
  5. Maintaining Integrity and Consistency of the Database
  6. Forms
  7. Implementation of Database

Basically, you need to:

**Introduction**

1. What is this case study about?
2. Summary thescenario from AO1
   * Briefly introduce the **business you have selected** and ***describe the range of information you wish the database to manage***
     + ***Consider the type of information that the database could use***

**Main Investigation**

**Tables - *(Task 1)***

1. Based on the data dictionary designs for the tables within your database, create them using an appropriate software
   * Remember you need to use **only** the fields you have documented within your data dictionary
   * Provide screenshot evidence of any features used during the creation of the tables,
     + verification and validation routines;
       - input masking
       - dropdown or combo boxes
       - checks for completeness (field sizes)
       - data consistency
       - data redundancy

**Relationships - *(Task 2)***

1. Based on the database table structures, you need to explain exactly which fields link to each other
   * Justify and explain your choices made
   * Provide screenshot evidence of any relationships created between the tables
   * Explain HOW you have **enforced the referential integrity** between the tables

**Input Data into the Tables - *(Task 3)***

1. Show evidence of data inserted into the tables created
   * **Input up to 60 records in the all the tables created**

Use the **“Unit 06 – AO2 – Sample Customer”** for data that can be used for the customer table

**Maintaining Integrity and Consistency of the Database**

1. ***(Task 4)*** – Explain to the end user how you have ensured that you have maintained your databases integrity by enforcing referential integrity.
   * You may want to illustrate this using screenshots of the database features used
     + Make use of the table structure, relationship, validation checks, etc... that has been implemented
   * To achieve a MERIT/ DISTINCTION, you need to:
     + Demonstrate this working by showing a customer who has a sales/bookings, delete it from the customer table and show that all of the sales/bookings have been removed in a cascading effect (use the allocated ID number)
     + Annotate print screens and explain WHY this has happened??

**Forms**

For this section you need produce forms for information that is stored within the database – to achieve a higher grade consider developing several different forms that can be used

* + ***Consider the customisation of the forms designed/created***

1. ***(Task 5)*** – Create the forms based on the designs produced within your database
   * Provide screenshot evidence for creating the forms including any validation methods used
     + ***Consider the validation checks required to ensure correct data is stored***

**Implementation of Database - *(Task 6)***

1. Illustrate evidence (screenshots) in the form of using a consistent and appropriate styling in the design and construction of a database for:
   * Naming of all database tables
   * Name of fields used within the database tables
   * Naming of all database forms
   * Designs of all database forms
   * Consistent use of a house style