**School of Computing**

**ST1501 Data Engineering CA1**

**AY2023/2024 Semester 1**

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| **Class** | **DAAA/FT/2A/04** |

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| **Section A - Database Design (Entity Relationship Diagram)** | 30% |
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| **Section B - Database Design (Database Diagram)**   * The database supports the described business scenario. * The chosen table names, field names and attributes are descriptive. * The database is normalized. | 10% |
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| **Section C - Database Creation**   * Attach an SQL file to include create table statememts including the primary key and foreign key definition. * Enter the details of each table in the template. | 10% |

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| **List all the relations, PK, FK and all non key attributes for the database relation diagram. Attach an SQL file to show the create table SQL script to implement the database design, including the primary key and foreign key definition.** | | | | | |
| **No** | **Relation Name** | **Primary Key** | **Non-key Attribute(s)** | **Foreign Key(s)** | **Referenced Relation** |
| 1 | Store | Store\_ID | Store\_Address |  |  |
|  |
| 2 | Item | Item\_ID | UPC |  |  |
| Brand |
| Description |
| Price |
| Cost |
| Weight |
| Shape |
| Size |
| Taxable |
| 3 | Inventory | Store\_ID | Item\_Quantity | Store\_ID | Store |
| Item\_ID | Item\_ID | Item |
| 4 | Employee | Emp\_ID | EmpName | StoreRef\_ID | Store |
| SSN |
| Phone |
| Address |
| PayType |
| Password |
| Manager |
| Email |
| Date\_Hired |
| Date\_Start |
| Date\_End |
| Pay |
| Pw\_Change\_Date |
| Pay\_Rate |
| 5 | Dependency | Dep\_ID | Relationship | Emp\_ID | Employee |
| Emp\_ID | Dep\_Name |
| 6 | Cashier | Cashier\_ID |  | Store\_ID | Store |
| Cashier\_ID | Cashier |
| 7 | Manager |  | IsDirector | Manager\_ID | Employee |
| Store\_ID | Store |
| 8 | Customer | Cust\_ID | CustName |  |  |
| Email |
| CustPhone |
| CustAddress |
| Date\_Joined |
| 9 | Checkout | Checkout\_ID | Total\_Amt | Store\_ID | Store |
| Transaction\_Date | Cashier\_ID | Cashier |
| Cust\_ID | Customer |
| 10 | Receipt | Receipt\_ID | Subtotal | Checkout\_ID | Checkout |
| Checkout\_ID | Tax | Cust\_ID | Customer |
| Item\_Order | Purchased\_Qty | Store\_ID | Store |
| Cashier\_ID | Cashier |
| Item\_ID | Item |

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| **Section D - The Query Statements 35%** |
| Query 1 |
| Query 1 results |
| Query 2 |
| Query 2 results |
| Query 3 |
| Query 3 results |
| Query 4 |
| Query 4 results |
| Query 5 |
| Query 5 results |
| Query 6 |
| Query 6 results |