2025

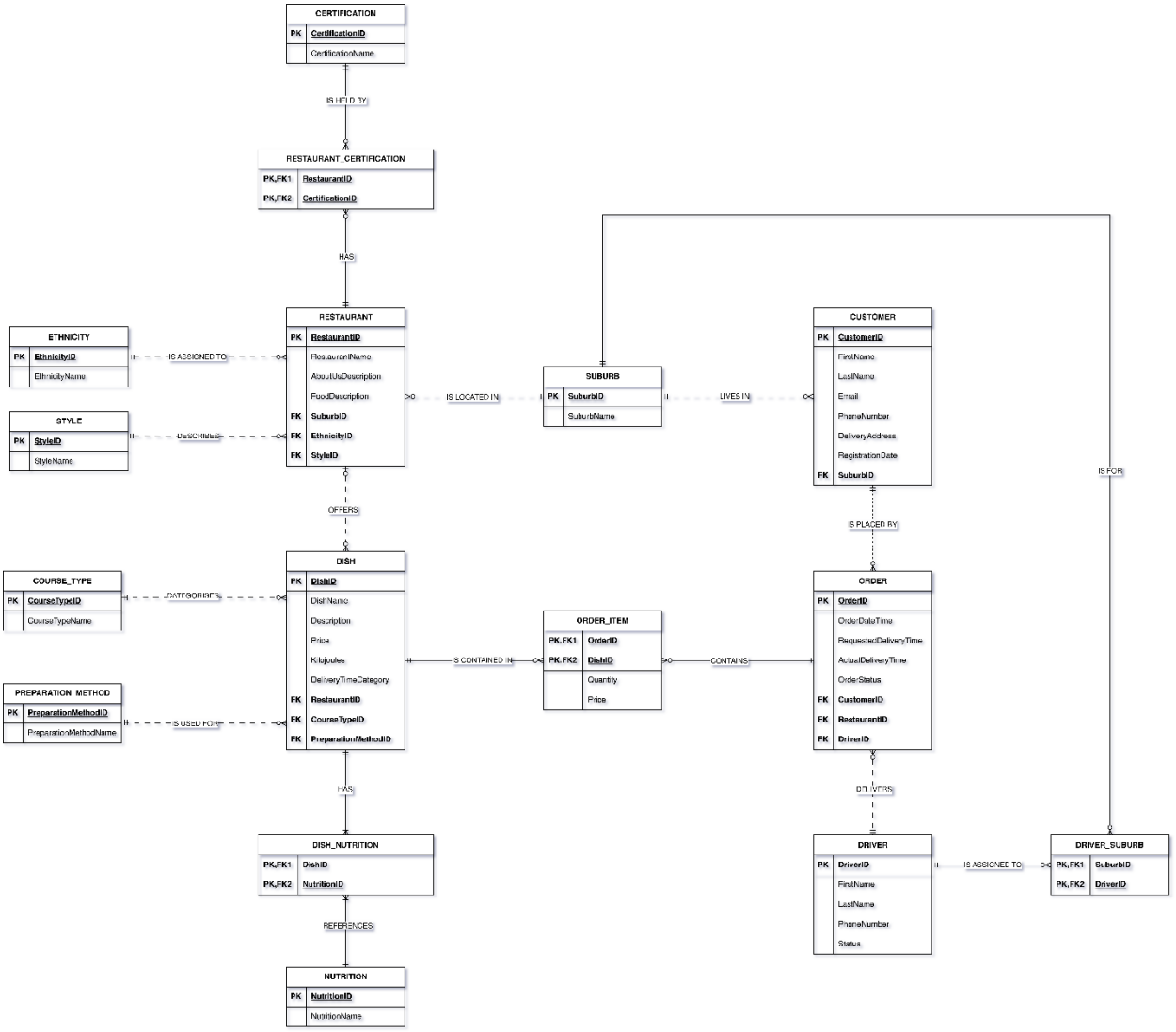
# ICT285 Database

ASSESSMENT 2

JERVIN ALEJANDRO 32940204

# Contents

# Revised ERD and Schema




Legends:

- Identifying Relationship
- Non-Identifying Relationship
- One to Many
- One to Zero or Many
- One to One

In response to the new business requirement for service expansion, the ERD was revised to prevent significant data integrity issues. The previous design would have required storing suburb names as text attributes in multiple tables, leading to widespread data redundancy. This is problematic because it creates update anomalies. For instance, changing a

suburb's name would require an inefficient and error prone search across the entire database. To resolve this, I created a central SUBURB entity to act as a single source of truth, and its primary key is used as a foreign key in the CUSTOMER, RESTAURANT, and DRIVER_SUBURB tables. This structure guarantees referential integrity, ensuring that location data remains consistent and reliable.

Furthermore, to address feedback from Assignment 1, the model for dietary information has been correctly normalized. A design that stores multiple nutritional labels in a single field within the DISH table would violate First Normal Form (1NF) and make querying for specific dietary needs inefficient. By creating the NUTRITION table to hold unique labels and the DISH_NUTRITION associative table to link them, the design now properly models the many-to-many relationship between a dish and its nutritional properties. This normalized structure eliminates data redundancy, ensures information is stored consistently, and results in a far more scalable database design.

## Relational Schema

RESTAURANT (RestaurantID, RestaurantName, AboutUsDescription, FoodDescription, **SuburbID, EthnicityID, StyleID**)

SUBURB (SuburbID, SuburbName)

STYLE (StyleID, StyleName)

ETHNICITY (EthnicityID, EthnicityName)

RESTAURANT_CERTIFICATION (**RestaurantID**, **CertificationID**)

CERTIFICATION (CertificationID, CertificationName)

CUSTOMER (CustomerID, FirstName, LastName, Email, PhoneNumber, DeliveryAddress, RegistrationDate, **SuburbID**)

DRIVER_SUBURB (**SuburbID**, **DriverID**)

DRIVER (DriverID, FirstName, LastName, PhoneNumber, Status)

ORDER (OrderID, OrderDateTime, RequestedDeliveryTime, ActualDeliveryTime, OrderStatus, **CustomerID**, **RestaurantID**, **DriverID**)

ORDER_ITEM (**OrderID**, **DishID**, Quantity, Price)

DISH (DishID, DishName, Description, Price, Kilojoules, DeliveryTimeCategory, **RestaurantID**, **CourseTypeID**, **PreparationMethodID**)

COURSE_TYPE (CourseTypeID, CourseTypeName)

PREPARATION_METHOD (PreparationMethodID, PreparationMethodName)

DISH_NUTRITION (**DishID**, **NutritionID**)

NUTRITION (NutritionID, NutritionName)

# Data Dictionary