**LIS 5782 – DATABASE MANAGEMENT SYSTEMS**

**FALL 2019**

**GB 3B: Grace Brothers ERD Version B**



**Notes on Version B**

This version includes the concepts collectively referred to as “enhanced” ER modeling concepts.

(1) Superclass/Subclass Relationship

The Employee, Customer, and Consultant entities are set as subclasses of a Person superclass. The superclass contains the attributes common to all of the subclasses (*e.g.,* first names). Each subclass contains those attributes unique to it (*e.g.,* employees’ SSNs) and “inherits” the superclass attributes. Because each person belongs to at least 1 subclass, the participation constraint is mandatory (indicated in the ERD by “Mandatory”) and because a person can belong to >1 subclass, the disjoint constraint is nondisjoint (indicated in the ERD by “And”). The address and phone number entities that were associated with Version A Employee, Customer, and Consultant entities were consolidated in Version B into the Address and Phone entities.

(2) Aggregation

The relationship line from Employee to Schedule start in open diamonds to indicate aggregation because Employee represents the “whole”: Similarly, a task is part of an employee’s schedule, so the line running from Task to Schedule ends in an open diamond.