

# CIS112: Project 1

**Objective:** To create a comprehensive, final database system which applies all of the concepts and techniques taught to date this semester.

**Requirements:** Create an Access database which conforms to the following requirements:

1) **Select a topic of interest, preferably something that applies to your major or minor.** This can be virtually anything except a project about sports (i.e. no databases of players and teams). Either find a meaningful dataset on the Web to use or mock up useful data for your project. If you find a dataset on the Web, you must provide the link to the instructor. Send an email to the instructor by October 16th stating your topic of interest and how you plan to obtain data for your project. All topics are subject to instructor approval.

2) **You should begin your design by creating a use case diagram and ERD in Visio.**

A) Who are your users? What will they do with the database?

B) Be sure to provide labels on your UML Use Case Diagram and ERD indicating your name, course name, assignment, and date.

C) The Use Case Diagram and ERD should be submitted manually on the due date.

3) **Your database must contain a minimum of 8 tables.** The tables should be highly normalized. Do not create contrived or bogus tables just to meet the minimum requirement. Instead, choose a project of sufficient complexity that there will be at least 8 tables. Columns should have appropriate data types and properties assigned with names descriptive of the data they contain. Relationships should be created which are appropriate for the primary and foreign keys in the database. Comment your metadata with appropriate notes.

4) **Seed data should be inserted into the database** which will allow queries, forms and reports to consume the data.

5) **A minimum of six queries should be written and saved in the database** meeting the following requirements:

- a) at least three must contain inner joins;
- b) at least one must contain an outer join;
- c) at least two must contain aggregate functions and grouping;
- d) at least one must contain a union query;
- e) at least one must contain a calculated field;
- f) at least one must contain a parameter.

6) Name your database **project1-<first\_name>\_<last\_name>.accdb**

7) **Submit the following files via Sakai:**

a) project1-<first\_name>\_<last\_name>.accdb

8) **Submit the following via Sakai and manually:**

b) project1\_UCD\_<first\_name>\_<last\_name>.vsdx

c) proejct1\_ERD\_<first\_name>\_<last\_name>.vsdx

**You will receive feedback from the instructor assessing your work on Project 1. Keep this information because you will need it for Project 2.**