## **Semester Projects**

**Project Milestones**

1. Project idea: find a database online and send a draft of project idea to professor.
   1. First, each student needs to find a database online and submit a draft of project idea for approval.
   2. Project idea should include 1-2 pages for database description, business background, analytic theme, etc.
   3. Informal discussions with the professor can help to refine the project and proposal. Students should not continue working on the project unless it has been approved by the instructor.
2. Project Proposal:
   1. Finalize your database.
   2. A narrative description of the business used for the data warehouse being created. This should also include a description of the problem or opportunity being addressed.
   3. Identification of the information needs – what information would help solve the problem or allow one to take advantage of the opportunity.
3. Dimensional model:
   1. Initial list of dimensions and facts that have been identified. This should come naturally from the above discussions. For this project, I would expect a project to contain at least 5 dimensions and 2 fact tables.
   2. Students should design the data warehouse schema by defining dimensions and fact tables. A diagram should be created to document this step.
4. ETL design:
   1. Students should then identify data sources and create ETL plans for extracting and loading this data into the data warehouse schema. Take a screen picture of each major step and add a short note describing what is happening in this stage of the ETL process.
   2. Once the ETL Process has been specified, students should populate a data warehouse schema with sample data.
5. Final report:
   1. Turn in your final project slides and report.
   2. Students should then create a basic “Dashboard” that displays at incorporates at least 3 different data representations such as graphs, maps, heat maps, charts, tabular/cross-tab reports, etc.

**Project Deliverables**

1. Students should produce a document (MS Word) that includes all of the following:
   1. A separate cover page listing the course, student’s name and project title.
   2. An introduction section similar to the proposal section including the narrative description of the business used for the data warehouse being created and description of the source data.
   3. The dimensional model diagrams.
   4. A description and screen pictures of the ETL processes.
   5. Screen shots and brief descriptions of the final schema that the business analytics tools are working with.
   6. Screen shots and descriptions of the analytics (at least 3) on the dashboard visuals developed based on the data warehouse data.
2. A narrative conclusion section that describes:
   1. The experience with the project (which steps were the most difficult? Which were the easiest? what did you learn that you did not imagine you would have? if you had to do it all over again, what would you have done differently?)
   2. If the proposed benefits can be realized by the new system.
   3. Any final comments and conclusions
3. The final presentation will cover the following points:
   1. Business background
   2. Data description
   3. Dimensional model design
   4. ETL processes
   5. Analytical results