**MTH 101 Final Project**

**Phase 1:** Proposal, due on **Friday Sept 30th**

The outline should describe your topic or question for study, and some sources of information you have found.

First, find a source of data. You will probably be able to use data that is already publically available, but you may also wish to collect your own data. **If you intend to collect your own data, you must speak to me IN ADVANCE to ensure your plan does not infringe on any research ethics.** Even some surveys may be ethically problematic.

Here are some places to begin:

<http://www.cdc.gov/DataStatistics/> The CDC tracks births, deaths and health outcomes.

<http://www.census.gov/library.html> The Census bureau tracks demographics, populations and population movements.

<http://www.nhtsa.gov/NCSA> The National Highway Traffic Safety Administration tracks traffic accidents.

<http://www.nass.usda.gov/> Agricultural production statistics for the USA, from the FDA.

<http://nces.ed.gov/> Educational statistics.

[www.gapminder.org](http://www.gapminder.org) has all kinds of data from many countries.

If you prefer data from another country, or another kind of data, I can help you find it.

**Phase 2** should be a more-or-less complete draft, due **Nov 22nd or 23rd** (last class before Thanksgiving)

You will write a project on a topic of your choosing and share the results with the class during the final week of the semester. The project should be 2-4 typed pages, not including tables, pictures and bibliography.

It should include an explanation of the topic and specific questions that you explored. It should also include:

* Some descriptive statistics, such as rates or means
* At least one confidence interval or hypothesis test, used appropriately, including a verbal explanation.
* A comparison of two variables, including a correlation coefficient if appropriate. (If one of the variables you wish to compare is categorical, see me for the necessary tools.)
* At least two appropriate graphs, charts or tables
* Cited sources in a bibliography. You may use any standard citation format, as long as sources are described clearly enough that I can find them.

Ultimately, I want you to express an informed opinion on the topic (a thesis statement) and back it up with facts and figures.

*Do not worry if you don’t understand all the instructions yet, confidence intervals, hypothesis tests and correlations will all be explained in class in the weeks ahead.*

The final project is due **Friday December 9th**.

**Rubric (15 points total)**

Phase 1 completed on time (1 point)

Phase 2 completed on time (1 point)

Sources cited clearly and specifically (2 points)

Thesis statement cited clearly (2 points)

Thesis statement backed up with facts and data (4 points)

Appropriate use of graphs, charts and tables (2 points)

At least 2 correct and appropriate calculations (3 points)

Participant suggestions:

1. Group projects, possibly with self grading.
2. How much to help them? How do we know?