

Econ 6808 Introduction to Quantitative Analysis

Assignment 1: paper/project report - due Nov 16

This project is worth 10 points.

Quoting from the syllabus

The Paper: The purpose of the paper will be to show how the mathematical techniques and theory learned in class can be used to address an economic problem that you find of interest. You will be encouraged to either build a simple mathematical model of economic behavior or critique a journal article that utilizes a mathematical model to analyze economic behavior. Your paper can be a *Mathematica project*. Please discuss your paper topic with me before you write your paper. The final copy of your paper will be due in my office around December 3. If you get a preliminary version to me a week before Thanksgiving, I will return it to you with comments before Thanksgiving.

On November 16th I want you to turn in a progress report on your paper. This progress report should identify your topic by title, include an abstract (100 word summary of your project), include an outline, references, and report on what still needs to be done. Make it as detailed as possible.

Well before November 16th, you should discuss your topic with me. Come well prepared. If you are not sure what you want to do, come with some alternatives. Think about what interests you. Keep in mind that I know nothing about macro, so if you have a macro project, make sure everything is explained.

The main intent of the paper is **to show how the mathematical techniques and theory learned in class can be used to address an economic problem that you find of interest**. I will be looking for your ability to think critically and write clearly, not for how often you have been to the library.

Last year, some students developed an interactive *Mathematica* notebook on a topic of interest, e.g., on some application of duality theory. Think of such a notebook as a learning tool for future generations. If you do a notebook, it should be sufficiently detailed and clean, so that it can be used by the class without further modification.

Other students took an economics article with a mathematical model and critiqued it. Either it was on a topic of interest or an article that they read in another class or both. For example, one student critiqued a model of immigration.

One or two students developed mathematical models of economic processes. Often these were based on models considered in other classes.

Most of the final papers will be in the 5 to 10 page range.

Things to remember:

Be precise

Define **all** notation

Assume I don't know much.

Maybe this could be the start of your thesis research. Maybe you could do an econometrics project on the "same" topic next semester.

I can help you to narrow down your paper topic.

What you hand in on Nov 16th should reflect a significant proportion of the work on your project.

If your paper is good, and with your permission, I will put it up on the course web page.