

ECONOMICS 208

**AN INTRODUCTION
TO ECONOMIC
MODELING**

COURSE MANUAL

ALLAN G. SLEEMAN

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A WORD TO THE WISE.

This Manual, which is almost 350 pages long, has taken me a very long time to write and has gone through many revisions. The Manual is the product of a great deal of thought about how to learn economics, and about what I think you need to do in order to do well in ECON 208. My advice is scattered through the first 60 plus pages of the Manual. You should read this advice very carefully and **some**, probably most, of you should follow it carefully. (Of course some of you already have excellent study skills and can skim this advice, and should not feel affronted by this material which is not directed at you but may be of help to others in the class.)

You should treat the Manual (notice the capital **M**) as seriously as I have done. Read it constantly, intelligently, and critically. The Manual is your “bible” for this course. Use it well and you should do well in ECON 208 – which will make me a very happy professor.

Galileo and the Great Book of Nature.

“The great book of Nature lies ever open before our eyes and the true philosophy is written in it But we cannot read it unless we have first learned the language and the characters in which it is written. ... It is written in mathematical language.”

Galileo Galilei, “Saggiatore”, Opera VI,
p. 232.

And remember, the perhaps apocryphal,
“epur si muove”.

Marshall on the Nature of Economics.

“[Economics] is not a body of concrete truth, but an engine for the discovery of concrete truth.”

Alfred Marshall, “The Present Position of Economics” (1885) p.25

Poul Anderson (Science Fiction writer) (apparently after reading the last draft of the 208 Manual).

“I have yet to see any problem, however complicated, which when you looked at it in the right way, did not become still more complicated.”

John Maynard Keynes on Economics as a Set of Tools for Understanding Economic Activity.

“The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of mind, a technique of thinking which helps its possessor to draw correct conclusions.”

John Maynard Keynes, “Introduction” to the Cambridge Economic Handbook series, 1930(?)

John Maynard Keynes on the Power of Economic Ideas.

“...the ideas of economists and political philosophers, both when they are right, and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.”

John Maynard Keynes: “The General Theory of Employment, Interest, and Money” (1936, p. 383).

Samuelson on the Need for Mathematics in Economics

“... I have come to the conclusion that Marshall’s dictum that “it seems doubtful whether anyone spends his time well in reading lengthy translations of economic doctrines into mathematics, that have not been made by himself” should be exactly reversed. The laborious literary working over of essentially simple mathematical concepts such as is characteristic of much of modern economic theory is not only unrewarding from the standpoint of advancing the science, but involves as well mental gymnastics of a peculiarly depraved kind.”

Paul A. Samuelson “The Foundations of Economic Analysis” (1947), p.6.

Robert M. Solow on the Necessity of Economic Theory in Policy Analysis.

“I am not one of those people who believe that economics has the last word to say about every subject under the sun ... But I do think that economists seem to be the only people who have any systematic way at all of thinking about certain problems.”

Robert Merton Solow “What Do We Owe the Future?” (1973)

Burton G. Makiel

From the Forward to “Naked Economics” by Charles Wheelan.

“[E]conomists have a unique way of viewing the world and thinking about how to solve problems. *Thinking like an economist involves chains of deductive reasoning in conjunction with simplified models* such as supply and demand. It involves identifying tradeoffs in the context of constraints. It measures the cost of one choice in terms of the foregone benefits of another. It involves the goal of efficiency – that is, getting the most out of our limited resources. It takes a marginalist or incremental approach. It asks how much extra benefit can be achieved by incurring some extra cost. It recognizes that resources have many diverse uses and that substitution can be made among different resources to achieve desired results. Finally, the economist has a predilection to believe that welfare is increased by allowing individuals to make their own choices and to argue that competitive markets are a particularly efficient mechanism for giving expression to individual choices.”(Emphasis added.)

Intuition and Mathematical Manipulation.

My point is that formal facility is not the same thing as intuitive understanding. Being able to manipulate symbols and objects like a sidewalk card shark does not necessarily imply any understanding of underlying mathematical principles. Nor does such understanding imply manipulative ability.

From “Once Upon a Number”, John Allen Paulos, (Basic Books, 1998) p.80

Accepting Responsibility.

“Becoming a smart student means that you have to demand more of yourself. It means that you’ll have to get over the fears that go with being independent. It means that you’ll have to do more than your teacher asks you to do. And it means no excuses.

Sometimes you’ll be stuck with a boring teacher, a stupid assignment, or a lousy textbook. It’s still your job to find ways to master the material so you can ace your papers and your exams. You may feel uncomfortable with this notion. You may believe that simply listening to your teachers and completing assignments means that you’ll learn your subjects and that you’re entitled to good grades. You better get over that feeling soon because I’m telling you right now: there is no such guarantee.”

From **“What Smart Students Know”**, Adam Robinson, p.13.

Teaching at the University Level.

Steven Zucker (Brown University)

1. You are no longer in high school. The great majority of you, not having done so already, will have to discard high school notions of teaching and learning and replace them by university-level notions. This may be difficult, but it must happen sooner or later, so sooner is better. Our goal is more than just getting you to reproduce what was told you in the classroom.
2. Expect to have more material covered at *two to three* times the pace of high school. Above that, aim for greater command of the materials, especially the ability to apply what you have learned to new situations.
3. Lecture time is at a premium, so it must be used efficiently. You cannot be “taught” everything in the classroom. *It is your responsibility to learn the material.* Most of this learning must take place *outside* the classroom. You should be willing to put in two hours outside the classroom for each hour of class.
4. The instructor’s job is primarily to provide a framework, with *some* of the particulars, to guide your learning of the concepts and methods that comprise the material of the course, it is not to “program” you with isolated facts and problem types ...

From *Notices of the AMS*, August 1996. (Emphasis in the original).