

ECONOMICS 208

SYLLABUS

INTRODUCTION TO ECONOMIC MODELING

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TEXTS:

ECON 208 Course Manual: Sleeman, Allan G., [Manual].

Archibald & Lipsey Manual: (The first half of “*An Introduction to a Mathematical Treatment of Economics*”.) [A&L].

You need to purchase the two manuals from the Bookstore – my manual (which I will call “The” manual), and the Archibald and Lipsey manual (which I will call “A&L”). Student Manual Services only prints a limited number of manuals (they do not want to be left with unsold copies on their hands). Therefore, if you cannot find either, or both, manuals on the shelf, **fill out a student manual reprint request** (forms available at the Bookstore) and pay for the manual. **HOLD ON TO YOUR BOOKSTORE RECEIPT.** You will need it to pick up the finished copy of the manual at the Bookstore Customer Service Counter. You will receive a copy within 48 hours.

Students who have a **good command of differential calculus of one and two variables** may not need to acquire A&L – although

it is an excellent book (after all, they taught me what I am going to teach you).

You also need to have access a micro principles text and a macro principles text. These can be the ones you saved from your ECON 206 and 207 courses or ones that you can obtain **second hand** (you can try Michael's or Henderson's used bookstores downtown on Grand Avenue or the textbook store in Sehome Village), or from the library, or from a friend. You should also resurrect your notes from ECON 206 and 207. (You will find that you only need to use a very small part of these texts – the **theory** sections that typically amount to less than a third of the total pages. The theory does not change much from year to year and is basically the same material irrespective of the text's authors.)

The most common problem that majors have in this and their upper division courses is **a failure to have mastered basic economic theory**. You may have problems with the math too, but most of you will have problems because your economic theory is weak. It is **your** job to make up the ground that you missed or were never taught. **ECON 206 and ECON 207 are the foundations on which everything you learn in the major are built. So get hold of the texts and read them.**

Keep these textbooks with you as you progress through the major. You will find them invaluable intuitive guides to the theory that you will be attempting to master in those upper division courses.

COURSE OBJECTIVES

*This is a course about **economic theory** and how economists **do economics**. The course is concerned with **tools and techniques not with applications and economic policy**. Although the course has *many* examples of the use of the tools and techniques of economics these examples are necessarily stylized and abstract, and although much of the material has a policy slant the policy discussions emphasize the strengths and limitations of the economic theory underlying those policy discussions. I know that many of you were attracted to your major by the many interesting applications of economics to current policy issues but any professional economist will tell you that you cannot even begin to talk sensibly about economic policy without first having a firm grasp of economic theory.*

OUR SPECIFIC OBJECTIVES ARE:

- (1) To **review** some of the **basic** concepts of **microeconomics** and **macroeconomics**.
- (2) To **introduce** you to some **economic techniques** that will be useful in 300 and 400 level economics, courses.
- (3) To help you to get **the "mind-set"** that is **necessary** if you are going to do well in your **major**.
- (4) To **review** some **mathematical concepts** that you once learned but may have forgotten.
- (5) To provide you with **examples** of the **applications of mathematics in elementary economics**.
- (6) To **introduce** you to some **mathematical tools** employed by economists that will probably be new to you.

EXAMS AND GRADES

There will be **three** mid-term exams and a **final** exam. **All** exams are to a greater or lesser extent **comprehensive**. ***If you are satisfied with your grade after you have completed the three mid-term exams then you are not required to take the final*** – and should not do so unless you get masochistic pleasure from taking a two-hour comprehensive exam on everything that you were supposed to have learned in Econ 208. However, ***if you do not take the final then you must be in class on the Monday and Wednesday of “dead week”*** – unless you have an excuse that **I** find acceptable. *Not taking the final is a “privilege” not a right.*

If you take the final and do better than your mid-term average then I will give you a grade based on that final score. If you do less well on the final than on the midterms, then I will **drop your lowest mid-term score** when calculating your mid-term average and *average* the remaining two mid-term scores with your final score. **While you can fail Econ 208 you really have to work hard to do so!** (And please notice that this extremely student friendly – as in Enron accounting – system is also a privilege not a prerogative.)

FIRST MIDTERM: Monday, January 24.

SECOND MIDTERM: Wednesday, February 9.

THIRD MIDTERM: Wednesday, March 2.

FINAL: Tuesday, March 15, 3:30-5:30.

I will **try** to return your marked exam at the first class meeting after the exam. The second half of each mid-term class will be an exam review in which I will go through every question showing you exactly what I wanted, and why you may have lost points even though it may seem that you answered the question “correctly” -- the most common problem is giving an Econ 206 or Econ 207 answer to an Econ 208 question. **It is very important that you attend these exam reviews.** Watching me go through the questions, and seeing how I would have answered them, will help you “ace” the next mid-term.

All of the exams will be based primarily on the Assignment questions to which you will have my Assignment keys! THIS IS PROBABLY THE SINGLE MOST IMPORTANT SENTENCE IN THE MANUAL, PLEASE DO NOT IGNORE IT!

All of the questions will have been covered in the lectures too and most questions are also answered for you in the Manual.

The mid-term exams will usually have about eight to ten, often multi-part, questions to be done in 60 minutes; the final will have about ten to twelve questions to be done in two hours – again most of the questions will have multiple parts.

You will need to move through the exam quickly. This means that you must **practice writing questions under exam conditions**.

In view of what you have just read, when you come to class try to spend less time trying to copy down everything that I say or write on the board – which is almost certainly printed for you in the Manual (so **bring your Manual to class** and keep it open when I am lecturing) – and more time seeing how **I do things**: What sort of arguments do I use to make a point? How do I go about proving something? What information do I seem to emphasize?

What habits of thought do I seem to be trying to inculcate in you? What techniques am I trying to get you to adopt? As I will say to you in class, all university professors are prima donnas at heart and the way to do well in our classes is to *psyche us out* and get those little “brownie” points by showing that you not only came to class but followed what we said with rapt attention!

Exams should be learning experiences and a lot of what you learn will occur when you watch me do the questions when I go over the exams with you. Remember that **some of those questions will end up on the next mid-term exam and possibly on the final too!** My exams build on previous exams.

Don't miss class in Econ 208! In Econ 208 the lectures are a very important component of the course.

Try to have a positive attitude about your exam score, especially since you will discover that I try to mark in a student friendly fashion (good old Enron). Listening to students complain about their grades is seldom an edifying experience for either of us. You will usually be better served by trying to make certain that you know where, and why, we differed than trying to argue about an extra point. Ideally, if you want to dispute the mark you received – other than correcting a simple error I made – then go home and the next day look at the answer in conjunction with your lecture notes, the Manual, the Assignment keys, and anything else that may be relevant. If you still think that you have a good case then come and talk to me in my office. You may persuade me to change my mind – it has been known to happen (I think the last time was in late November of 1893).

I do make mistakes when marking your answers, for example I do sometimes add your points up incorrectly, skip a question or the fail to note the marks I gave you for it, give you fewer points than I

allocated to the question, or convert a percentage incorrectly. (So do your other professors – but they don't always like to admit it.) I know that I appear a godlike (JOKE!) and daunting figure, but even I am fallible - sometimes.

For each exam I have included in the syllabus **tentative** topics that I hope to cover on the exam. I must emphasize that these topics are very tentative, since I plan to cut out some of the material that I taught in previous classes and have simplified the Assignments somewhat, and so I am not absolutely certain how long the material will take to cover. I will keep you up to date as my estimates of where we are going changes as we progress through the quarter. But here is what I expect us to be doing over the next ten weeks.

A PATH THROUGH THE Econ 208 JUNGLE

January 5, 10, 12 Introduction and Supply and Demand.

Look through the material in the first *twelve* pages of the Manual and **think** about those quotations.

Look at the **Manual Contents** and the list of **Assignments**. (A1-A3, A^{*}, and A^{**} will **not** be used in the exams. A1-A3 are designed to give you a “feel” for the assignments and to demonstrate that you know less economic theory than you thought you knew.)

Read through the *Syllabus* **very carefully**, it covers the course content in more detail than I do here.

Study the “Study Hints”, “Reading the Manual” and “Advice” sections **very carefully** and return to them frequently. **If you**

follow my advice you will do well in 208; ignore my advice at your peril.

This is probably the only course that you will ever take at WWU that attempts to give you guidance as to what is expected of university students in general, and economics majors in particular. You may find this material repetitive (it was written over several years) because I often make the same point several times – as well as repeating it more than once in the lectures. **You may already be a superior student with excellent study habits.** In that case I may waste a little of your time – but even you may pick up some tips that apply specifically to this course.

I have been teaching Econ 208 and courses like it for over forty years and my experience suggests that students do poorly in Econ 208 – which is extraordinarily difficult to do given the way in which I have set up the exams – for four reasons:

They know **no calculus** (and are brave, or foolhardy, enough to proceed without making good this deficiency **as soon as possible**);

They have poor study habits and **refuse to follow my advice** on how to improve them;

They *lack the work ethic and sense of priorities* that should drive them during their brief years at university;

And, most commonly, they start the course with no recollection of the theoretical material common to all principles texts **and refuse to do anything about this** over a period of ten weeks.

Of course a combination of these factors does not bode well for your grade in this course – although I will try and get you across the C- line even if it means dragging you by the hair!

By now some of you may have acquired the idea that I feel passionately not only about economics, but also about the need to provide you with the tools to get the **education** that you are paying so much for. I am not alone in my belief that most students coming to university in 2005 are woefully ill prepared by the US school system to learn at a university level and that WWU does a lamentable job in lower division classes of making good those deficiencies. Indeed, I would assert that my views about how ill prepared you are for work in your majors are widely held throughout the university, including the Economics department. However, I seem to be one of the few faculty who is willing to do something about this problem, probably because most of my colleagues regard their function to be to teach university level courses, not to teach remedial study skills. But in Econ 208 I have more flexibility, although I am sorely pressed for time, and so I have structured Econ 208 to *make your transition to our upper division courses a happy and productive one*. If I seem to rant a great deal in these pages – and occasionally in class – please forgive me because I believe that what I write and say may be of help to many of you, **although some of you have already made the transition to being a university student very successfully** and therefore do not need to heed my advice. Remember that I would love it if all my ducklings turned out to be cygnets!

Finally you will reach **Part One** (pp. 67-167) of the course – at last! Study ET 1. By study I mean read through the material carefully and think about it in the context of this and other courses but do not attempt to master the material because I will not ask you any exam questions on it. At first some of it may not make sense to you but if you return to it from time to time it will make

more and more sense as you become familiar with the type of modeling that is used almost everywhere in undergraduate economics.

By this point you should have already *looked* at all the ETs and MRs and Assignments to get a feeling for where we are going and how hard the going is going to get. (You should **always** begin **every** course by going over the whole text – even the parts that are not assigned – to see what is out there and to plan accordingly.) If you have **not** done this yet, **now** is the time to do this with all of the materials, following the sequence laid out for you in the Syllabus.

Your next task is to **master** ET1A - ET3 (look at ET3A and ET3B but we will not cover this material this quarter) and then **master** MRs 1-4 (some of which contain some economics that you need to know). MR1 has most of the algebra that *you think you know* but have probably forgotten – and this is an **algebra** based course; we despise arithmetic and are wary of geometry. You now have the economics and mathematics necessary to start mastering ET4 and ET5 the core of this part of the course. Finally work through the brief ET6 to round things out.

This course is very linear. The lectures and the Manual are arranged in an order that I think makes most logical sense. We do some economics and then you are shown the mathematical tools that are necessary for you to put the economics into mathematical form. You should see that the Manual follows the format of the lectures, sometimes filling in mathematical background that you need but I do not have time for in class. Some of the MRs contain economic information that you may need to answer the assignment and exam questions. Much of what I do in class will not be intelligible to you if you do not have a good grasp of the mathematics. Many of you have taken math classes in which

almost everything that you did was really arithmetic – including classes that were supposed to be about calculus. **For many of you the most difficult thing about Econ 208 will be that it uses symbols rather than numbers.** (You can always put in your own numbers!)

Economics, at the undergraduate level, does not use a great deal of mathematics and what is used is not very difficult – most of it you will see in Econ 208. But economics is a social **science** and therefore to master economics you must become used to **abstract arguments, logical arguments that involve several steps, and the abundant use of symbols.** If you find this sort of thing a bit of a challenge then resort to **flash cards** – write the symbol on one side and its definition on the other.

Bear in mind that **the Manual is *not* a textbook but a set of notes** to accompany the lectures and that it is written in a relatively terse style (once we get through the opening exhortation section!) and so you should **use your micro and macro principles text to fill in the background to what I say and write.**

While doing all of this – plus listening to me lecture – you need to **work on the assignments.** A1 is just there to get you doing things I want you to do but that you do not, yet, do automatically. (Mastering an academic discipline is like mastering a martial art: **practice, practice, practice.**) A2 and A3 are there to remind you of some things that you may have forgotten and to remind you of some concepts that are the bedrock on which the whole edifice of economics is built. (See the quote from Malkiel.) **A4-A7 are the assignments that will provide questions for the first exam.** Keys will be provided when you have had a chance to tackle the questions on your own and you will notice that the lectures also provide many of the answers to the assignment questions.

January 19, 26, 31 The Income Determination Model.

The **first mid-term** – the easy one! – will be on **January 24**. It will be largely on the S&D model but may contain some macro too depending on how quickly we proceed. If your recollection of Econ 207 is hazy, or *if you never wrote down any equations in your Econ 207 course*, then you will need to **look to your macro principles text**, since it should be obvious that I cannot do more than remind you of what you covered in that course. All of the macro material in this course is to be found in ET7 and ET8 (pp. 168-222). If this material looks quite unfamiliar to you then you need to be working on it **before** I get to it in the lectures which, as usual, will assume that you have worked on ET8 before I cover that material in class. You will do A8 at the same time that you work on ET8.

This completes the algebra section of the course – calculus all the way from now on! And so if you have never done calculus before *you will need to be well ahead* and **working on those calculi MRs *before I get to them in class***. I cannot, in two or three lectures do in Econ 208 what it takes the Math department weeks to do in Math 157. But in Econ 208 *we only do differential calculus*: and we use only a few rules all of which are explained in **MR6**. (*If you have problems with calculus then make extensive use of A&L who taught me much of what I know.*)

March 2, 7, 16, 21, 23 Single Variable Calculus. (pp. 223-299)

Very simple math but you have to put it together with basic micro principles and that means going over ***elasticity, cost curves, perfect competition, and monopoly*** in your **micro text**. Notice

that there is almost no coverage of this material in the Manual and so you will need to **work hard on your micro principles text and your notes from Econ 206** if you still have them.

Also notice that in Econ 208 we do not use numerical coefficients so that some of you who did well in your previous calculus courses (doing what was essentially higher arithmetic) may need to spend more time mastering the underlying concepts of calculus as opposed to following cookbook recipes to manipulate one numerical expression into another numerical expression. We will be using calculus to **prove** simple economic theorems just as we used algebra in Part One to prove theorems about the S&D model and Income Determination Models 1-3. There is nothing to stop you from putting in your own numerical coefficients if your intuition works best with numbers.

Work your way steadily through MR5 to MR8 and assignments A9-A13. Much of our attention will be devoted to the material in A13 almost all of which will be discussed at some point in class. By this time the assignment keys will be coming thick and fast and you will look back wistfully to those halcyon days when we did our “leisurely” run through of the S&D and macro models. **It is at this point that you will reap your rewards if you have been working your butts off, have kept well ahead of the lectures, have made yourself aware of what is coming at you, and have carefully and thoughtfully followed my advice.** If not there is always prayer!

The **second mid-term** is scheduled for **March 10**. That exam will be harder for most of you and exam scores often fall – particularly for those who do very well on the first mid-term and get a little “cocky” after a good score and do not work as hard for the second exam as they did for the first one.

February 28, March 7, 9 Bi-Variate Calculus. (pp. 263-299)

This is where you will ultimately learn what economists really do when they are not teaching – solve more and more sophisticated constrained extremization problems. Luckily you only have to solve the very simplest of these problems but you will have to get used to dealing with functions of two variables – *whose graphs are two-dimensional surfaces in three-dimensional spaces*. And in order for us to have some economics to work with **you will have to learn some new economics** – the bare bones of the theories of consumer and producer behavior.

I will develop the theory you need to know in class but you should again come prepared because we do not have time to hang around and explain everything at a leisurely pace. Therefore you need to read your micro principles texts – this time covering the appendices where these topics are now relegated to (although if you have an earlier generation text then you may find that that will go into the theory in depth in the body of the text – and all intermediate texts do this stuff ad nauseum, so think what fun you will have in Econ 306).

While you are doing this you will polish off assignments A15-A17.

The third mid-term – and you might as well know now that this is usually thought to be the toughest one – will be on **March 2**. It will contain some familiar material and some new stuff so anticipate having fun. But remember if you get a grade on the mid-terms that you are satisfied with then I (big hearted Sleeperson that I am - JOKE!) will excuse you from taking the final – as long as you are in class on **March 7 and 9**.

What you have to do in Econ 208 is work like mad for ten weeks, make certain that you are always ahead of me, and learn to master the material. Then you never need to cram for exams, although you may wish to *prepare* for them. *Get those study habits changed ASAP and all should go swimmingly, not simply in Econ 208 but in all your subsequent economics classes – not to forget the real world of the job market.*