

**Econ 802**  
**Microeconomic Theory I**  
**Fall 2021**

Welcome to Econ 802!

I have been a professor in the economics department at Simon Fraser University since 1995. It's been a very enjoyable place to work.

My main areas of teaching and research are economic prehistory, labor-managed firms, micro theory, and institutions. This is an unusual list of topics.

Contact information.

My office is WMC 4659, which is one floor up from the main economics office and in the far northwest corner of the building. I will have office hours there at a time to be determined.

My office phone is 778-782-5502. However, sometimes I forget to check my voice mail.

By far the best way to contact me is email: [gdow@sfu.ca](mailto:gdow@sfu.ca)

My web site is: [www.sfu.ca/~gdow/](http://www.sfu.ca/~gdow/)

I will put all course materials on Canvas so you won't need to use my web site. But if you are curious about my career or research, you might want to browse.

The marker for the course is Huiqian Song. I'll distribute her contact information later.

Covid-19 information.

See the one-page handout for guidelines.

I am fully vaccinated, and I strongly encourage everyone else to get vaccinated too.

If you are feeling unwell, please do not come to class. It is better to stay home and make up the work later.

We may have to use online teaching during part of the semester, depending on how the pandemic goes. I have back-up plans for lectures, office hours, and exams if this happens, but I am hoping it won't.

### Canvas materials.

At this point the only things on Canvas are a course outline, a schedule, some notes about concavity and second order conditions, and a lot of old exams (with answer keys).

The schedule is on the handout distributed in class. You can ignore the concavity notes for now.

I'll talk more about the old exams later.

### Getting the textbook.

The textbook is Hal Varian, *Microeconomic Analysis*, 3rd edition, W.W. Norton, 1992.

Earlier I sent an email to the class about the book. I am assuming that everyone either has an electronic copy or a physical copy. If you have neither, you should get one as soon as possible. Please me know if you have any problems with this.

### Course organization.

The regularly scheduled meeting times for 802 are Tuesdays 2:30 - 3:20 PM and Fridays 1:30 - 3:20 PM. We will meet in person! This is much better than meeting online.

One huge benefit from teaching in person is that students can easily stop me in the middle of a lecture and ask questions. I hope you will all take advantage of this opportunity.

More generally, you will have four sources of information:

- (a) The textbook
- (b) My lectures in class
- (c) Written lecture notes to be posted on Canvas
- (d) A large number of practice questions from my old exams.

I want to make a few comments on point (c). Throughout my career I have resisted requests to distribute my lecture notes. The reason is that I think students learn much more when they take their own notes as I talk in class. This requires people to process the incoming information for themselves and think about what they are hearing and seeing. The result is that students gain a deeper understanding of the material than they would get by skimming through pre-packaged notes prepared by the instructor.

When I taught the course in fall 2020, due to the pandemic it became necessary to write out my lecture notes and distribute them to the class electronically. No doubt these notes are floating around and it would not be fair for some students to have access to them while others do not. Therefore I will post these notes on Canvas so everyone can see them.

But this does not change my earlier opinion: you will learn a lot more in Econ 802 if you take your own notes in class and then try to organize them yourself afterward. At most, you should use my notes as a back up source of information.

### Exams.

There will be midterm exams on Friday Oct 15 and Friday Nov 12. There will also be a final exam in December at a date and time to be announced later.

Each exam is worth 1/3 of your course grade. The midterms will not be cumulative (the second exam will only cover the material that comes after the first exam). But the final exam will cover everything in the course.

If you miss a midterm, I will shift the 1/3 weight from that exam to the remaining exam(s). As I mentioned earlier, if you are not feeling well, you should not come to class, and that includes the exams. I will not be asking for medical documentation for such absences.

However, please don't treat this as an opportunity to skip an exam if you are in good health. You are better off spreading your risk rather than having your entire course grade depend on just two exams (or even worse, just one exam).

You CANNOT use the book, my lecture notes, your lecture notes, or any other outside materials during the exams. You can only use the information stored in your head.

Note: this is different from fall 2020, when I had to give exams online due to the pandemic. For this reason, students were allowed to use the book and my notes. In fall 2021, I am returning to the closed book/closed notes system I used before the pandemic.

My academic honesty policy is very simple: you can work in teams or groups any time EXCEPT when you are taking an exam. During an exam, you MUST work alone.

### Background.

I assume everyone has had an advanced undergraduate course in microeconomic theory (at SFU, this would be Econ 402). I also assume everyone has had math preparation involving 798 or the equivalent (at SFU, the undergraduate version of this course would be Econ 331).

The main type of math we will use is constrained optimization, plus occasional linear algebra. If you have concerns about your theory or math preparation, please send me an email and describe the situation, or drop in when I am having office hours.

There is usually some heterogeneity in the background of 802 students because people went to different undergraduate programs, used different textbooks, and so on. Therefore, it is normal

for people to find that there are gaps in their preparation. You should be alert in identifying the existence of such gaps and take steps to remedy any problems. This may involve talking to me, reading chapters 26-27 in Varian, reading other econ or math books, or talking to other students.

It is a good idea to have an intermediate micro theory book around (something like the textbook used in Econ 201 at SFU). This is often valuable as a way of understanding economic concepts without having a lot of math getting in your way. One possibility is the undergrad textbook by Varian, although any similar book would be equally good.

For math, it might help to have a copy of an undergraduate mathematical economics text. One option is a text by Chiang and Wainwright. This book has been around for a long time, but that's ok because the math doesn't change much. Amazon sells used copies of Chiang and Wainwright for about \$30.

You could also find out what texts have been used recently in Econ 331 at SFU and use one of those. Chapters 26-27 from Varian's graduate book are very condensed and don't use examples, but they are good if you want a fast review of a particular topic.

There is another graduate micro theory text by Mas-Colell, Whinston, and Green (1995), which some of you may have seen. This is more advanced than Varian and it is not necessary (or even recommended) for my course.

### Old exams.

All my past exams for 802 are available on Canvas (the years are 2004, 2005, 2009, 2013, 2015, 2016, 2017, 2019, 2020). There are also answer keys for all of the exams.

I want to strongly emphasize the following point: solving old exam questions is a crucial part of the learning experience in the course. It is similar in importance to the book and the lectures. If you don't spend a substantial amount of your time doing this, you won't learn the material.

Several times during the semester, I will send you emails indicating which of the previous exam questions are most relevant for the material we are currently covering.

After you have read the relevant book chapter and seen my lectures, and you are starting to feel that you understand what is going on, set aside a few hours when you will not be distracted, read the questions carefully, spend a significant amount of time thinking about each of them, and then write out your answers.

After you do this, systematically compare your answers with my answers, and try to figure out why there are differences (if there are). This process will not only help you learn the concepts, it is also excellent practice for taking the real exams.

DO NOT just read the questions and then read the answers. This is almost completely useless as a learning experience. It is really important to write down your own answers first as if you were

taking an exam. This will force you to think through the steps for yourself, before you see what my steps are.

Another benefit from the old exams is that you will become accustomed to the style of my exam questions. The questions at the ends of the chapters in the book may also be useful, but they are less closely related to the kinds of questions I like to ask.

### General advice.

Whenever we are starting a new topic, I recommend proceeding in the following steps. First, try reading the chapter in Varian. In some cases, I will tell you in advance that you can omit certain sections of the chapter, but otherwise you should read everything. At this stage some parts of the chapter may make sense and some may not.

Next, attend my lecture on the same material. This may eliminate some confusion (hopefully without creating new confusion!), and will offer guidance about the concepts I think are most important. Then go back to the book and re-read the chapter after seeing the lecture. Finally, after you have done all of this, try solving the old exam questions I will mention in my emails.

Here are some additional remarks and suggestions:

1. The course is demanding in terms of time and workload. Your effort is an important input.
2. Take responsibility for your own education. As I mentioned above, it is very likely that you will have some gaps in your existing knowledge about economics and math. Identify such gaps early, before you start falling behind, and take tangible steps to solve the problem.
3. Ask questions in person or by email. Don't stay quiet because you are feeling embarrassed. Asking questions is a normal part of the learning process. It is very helpful for me because this gives me feedback about which topics are confusing or require further explanation.
4. Form small groups with other students in the class (maybe 2-4 people) and meet regularly to discuss the material. Having a supportive group of this kind is likely to be quite helpful.
5. Talk to other students, but don't rely on them too heavily. You need to have an independent understanding of the course material. Don't fall into the trap of what psychologists call "group think", where people quickly agree on a shared point of view without challenging assumptions made by other members of the group. It is very possible that everyone else has gone down the wrong track and you are justified in feeling unsure about what they are doing.

You need to have an active understanding of the material, not a passive understanding. What I mean by this is that you need to be able to apply economic logic or mathematical techniques to situations you have not seen before, rather than just passively absorbing what is said.

Students who have a passive understanding often feel that the book makes sense and the lectures make sense, but they are unable to solve the problems on an exam. To avoid this danger, use the old exams for practice. They will challenge you to go beyond the book and the lectures by using concepts in creative new ways, or putting them together in new combinations. The more you try to solve my kinds of questions, the better you will become at it. There is a very large element of learning by doing.

This is an economics course, not a math course.

One last point is that you should not confuse the economic theory with the mathematical tools. For example, frequently we use calculus to solve optimization problems. This is a tool and often it is very useful. But the economic theory of the firm (or the consumer) is not about calculus. It is about what happens if someone maximizes a given objective function subject to a constraint.

There are many optimization problems where calculus is either irrelevant (maybe the objective is not a differentiable function), or not the best strategy for solving the problem (maybe a graphical approach is quicker, easier, and more understandable).

Furthermore, there are some theoretical issues about optimization that don't have anything to do with calculus but are very important, such as (a) does the problem even have a solution? or (b) is the solution unique? If you start taking derivatives when a problem has no solution, or multiple solutions, usually you will get nonsense, but you may not realize it is nonsense.

Besides optimization, the other big economic concept is equilibrium. You should try to be clear about the difference between the two ideas: (a) optimization is used to describe the behavior of an individual agent (a firm or a consumer), while (b) equilibrium is used to describe conditions under which the actions of these individuals are consistent at the level of the system as a whole.

Equilibrium concepts can lead to the same kinds of problems as with optimization concepts: we might have a situation where no equilibrium exists or where there is more than one equilibrium. In these situations, just doing math in a mechanical way, without thinking about the underlying economics, can easily lead to nonsense.

I hope part of what you learn from the course is the art of using technical tools. It is often very helpful to ask questions like: Why am I using this technique in this situation? Given the nature of the problem, is it justified to proceed in this way? Are there dangers I have to watch out for? Is it necessary to use this technique, or is there some other method that might work better?

That's all for now. If you have questions about anything, please let me know.