

Format of the Midterm

Designed to take 75 minutes: Three distinct parts on the exam, mix of paper exam and Canvas.

- First part will be defining an equilibrium for an economy that I give you
- Second part will be several multiple choice/short answer type questions, mostly conceptual
- Third part will be RStudio exercises. Similar to the datacamp exercises or the short exercises we did when learning R in class

Midterm Rules

- **Midterm will be during class, in room 0B07 (computer lab in library)**
- **Only allowed to have following things open: Canvas Midterm, RStudio, Excel, Calculator App**
- Bring a pen or pencil to write with for the paper part of the exam.
- Can bring a calculator. Can't use phone as a calculator; no talking allowed during exam
- Raise your hand if you have a question, although I won't provide additional clarification on problems or say if you're doing it right.
- Can't leave room until after you finish midterm
- No makeup for the midterm. If you have a necessary and excused absence the final will absorb the midterm's weight. If you do not have a legitimate absence, you will receive a zero.
- Cheating will result in a grade of zero and being reported for academic misconduct

What You Need to Know

- How to define an equilibrium with equations. Consumer maximizes utility subject to budget constraint, firm maximizes profits subject to production function, and markets clear. All being careful about subscripts and superscripts. Need to know exogenous and endogenous variables.
- Conceptual things about the models. What equation changes when we switch from a model with autarky to free trade. Only relative prices matter and normalizing a price/impact of Walras' law. Difference between iceberg costs and tariffs. How to calculate the trade balance or current account. Basic difference between GE/PE/SME models.
- Solution to the Firm's problem with perfect competition and linear production function ($MR = MC$ if a firm produces). Solution to Consumer's problem with Cobb-Douglas utility (constant expenditure shares).
- Should understand the intuition behind the graph for the continuum of goods model when you have tariffs (you produce a larger subset of goods than you export, so you have two cutoffs). For CES goods you should understand that the varieties are "different" and consumers want to consume of everything, but don't get negative infinity utility if they don't consume one particular variety.
- Need to understand the basics of everything covered in DataCamp and the Understanding R Code notes: Assignment, Vectors, Operators, Conditional Statements, Loops, and Functions.
- Might have you solve an equilibrium for a two to four equation Supply+Demand partial equilibrium type model.
- Basics about Newton's method. If I give you the formula, you should be able to do a few iterations. Know that initial guess may matter for convergence.

What WON'T be on the Midterm

- Won't ask questions on material not discussed in slides/class
- Won't ask questions about the graphical representations of the trade models
- Won't need to do a substantial amount of algebra or heavily manipulate formulas. Mostly, this means you won't have to actually solve the GE models on the midterm.
- Won't have to memorize/manipulate formulas for the CES or continuum of good models.
- Don't need to know how to come up with the welfare function. Should be able to use it if the equation is provided.
- Any involved Excel Exercises or Data Manipulation. Nothing about revealed comparative advantage.
- Filling out an R Template for a full general equilibrium economy
- Nothing about the evaluating or calibrating AGE models
- Nothing about Gravity regressions.
- Don't need to memorize any data facts about trade. Nothing about NAFTA.

What You Should Study

Lecture Slides and Notes:

- Worth reviewing all the slides, but the most important slides are where the Ricardian models are formally defined.
- Review the notes on Understanding R Code and Solving Systems of Equations with R.
- You should understand how models are solved in R, but you won't need to

Assignments:

- Make sure you understand the Canvas multiple choice assignments and the DataCamp assignments.
- The Problem Sets in general aren't representative of the exam, but worth reviewing parts of Problem 1.1 and Problem 1.2 since they have to do with things on the exam.

Other:

- Make sure you review and can fully answer the practice quiz we had earlier in the semester
- Complete all the R Exercises posted on my website and go over the solutions