Review:

Lecture 1.

Idea of constrained optimization.

Definitions of economics.

Role of marginal analysis.

Economics as a way to explain. Also used to predict.

Chapter 1 and 2.

What is a market?

What are the conditions that lead to a perfectly competitive market?

How is one to interpret a demand curve?

What influences demand?

What is the difference between movement along a demand curve and a shift in a demand curve?

How is one to interpret a supply curve?

What is the difference between movement along a supply curve and a shift in a supply curve?

How do we solve for the market equilibrium?

How do price ceilings and price floors impact the market equilibrium, and how do they lead to excess supply and excess demand?

Chapter 3

Price elasticity of demand.

Elasticity along a demand curve.

Cross price elasticity – substitutes and complements.

Supply elasticity.

Income elasticity – normal good, inferior good, Engel curve.

Contrast between short run and long run elasticities.

What leads one good to be more inelastic than another good.

Specific and ad valorem taxes.

What is incidence?

What determines incidence with a specific tax?

Why does it not matter in terms of outcome whether you place a specific tax on consumers compared to producers?

Why are producers not able to pass along all of a specific tax placed on producers on to consumers?

Elasticity and tax strategy (revenue generation vs. inhibiting consumption).

Chapters 4 and 5.

Premise of consumer choice theory: 1) preferences exist 2) constraints exist 3) Well being is maximized subject to constraints.

Properties of preferences (Completeness, Transitivity, More is better than less including free disposal)

Properties of indifference curves (further from origin is better, there exists one for each bundle, can not cross, slope downward).

MRS (slope of indifference curve)

Why does MRS diminish.

Contrast indifference curve for a perfect substitute and a perfect complement.

Utility is ordinal or cardinal?

Decreasing marginal utility.

What is in a budget constraint?

What is an opportunity set?

How are budget lines and opportunity sets to be interpreted?

What is the MRT (and how does it relate to the price ratio)?

How does a change in a price impact the budget line?

How does a change in income impact the budget line?

What is the optimal bundle and how is it defined?

Be able to rule out points in relation to each other to identify the optimal bundle.

State the different ways we can express conditions that characterize the optimal bundle.

What is the difference between a corner solution and an interior solution?

Understand the impact of a constrained transfer program such as the food aid example.

How do we derive a demand curve from the price consumption curve?

How do we derive the market demand curve from the individual demand curves?

How do we derive an income consumption curve and derive an Engel curve?

What is the relationship between PC / IC curves and shifts vs. movement along a demand curve.

Can both goods be inferior in a two good world?

How do we decompose the change in quantity brought about by a change in the price of the good?

What is the substitution effect?

What is the income effect?

What is the total effect?

What is a giffen good.

Why does the CPI overcompensate for inflation in general, and when does it not?

Chapter 6

What is the definition of technological efficiency?

What is a production function, and how do we define it?

Y=f(K,L,E,M) is interpreted in what way?

Long run vs. short run variables.

Definition of the long run.

What is the definition of the marginal product? The average product? Know both in terms of the math definition and the geometric representation.

Where does the marginal product curve cross the average product curve and why?

How do we explain the shapes of the total product curve, the average product curve, and the marginal product curve?

Distinguish between diminishing marginal returns and diminishing returns.

What is the definition of an isoquant?

What are the properties of isoquants (further better, do not cross, slope downward).

What determines shape? Substitutability of inputs.

What is the MRTS, and how does it relate to the isoquant.

What is the relationship between changes in input quantities and the marginal product of the inputs along a given isoquant?

What are returns to scale, and how do we tell increasing returns to scale from constant and decreasing returns to scale.

How do returns to scale relate to levels of input use in general (low input IRS, medium CRS, high DRS) and why does this hold.

Chapter 7

What is the opportunity cost?

What are sunk costs?

What are the short run cost concepts and how are they defined?

What are the long run cost concepts and how are they defined?

How do we draw them all?

What is an isocost line?

What is the slope of the isocost line?

What are the three ways of identifying a cost-minimizing (economically efficient) point – lowest isocost, tangency, last dollar?

What is the expansion path?

What is relationship between MC and AC in long run?

What is the interpretation of the MC cost curve in the long run?

What are economies of scale and diseconomies of scale?

What are economies of scope?

Chapter 8

What characterizes a perfectly competitive market (repeat)?

What does “price taking” mean and how does it relate to competitive markets?

What is the definition of a profit function?

How does one decide on the profit maximizing level of output in a perfectly competitive market in the short run?

How does one decide whether it is better to produce nothing than produce something?

How does one decide these things in the long run?

How do we arrive at the market supply curve?

What leads to a flat long run market supply curve?

What is long run economic profit for a competitive firm?

Does zero economic profit mean no accounting profit?

Chapters 9 and 11.

What is marginal willingness to pay?

How do we locate producer surplus, consumer surplus, and variable cost on a graph representing supply and demand in a competitive market?

What is relationship between profit and producer surplus in the long run?

How can we use the producer surplus / consumer surplus graph of a competitive market to understand why a perfectly competitive market is welfare maximizing?

What is a monopoly, and what leads to one existing?

Why is the monopolist not a price taker?

What is the bisection rule, and what does it define?

What are the conditions for choosing a profit maximizing price quantity pair for a monopolist, and what is the shut down rule here?

Identify the deadweight loss of a monopoly when compared to a perfectly competitive market.

Be able to calculate areas of CS, PS, DWL.

What can we do if we have a monopoly to regulate it?

Why is MC pricing a bad idea for a natural monopoly?

What is an oligopoly?

Know pattern of market structure (Price setter, strategic interaction,…)

Why is there an incentive to form a cartel?

Why is there an incentive to cheat if you are in a cartel?

Distinguish between Cournot, Bertrand, and Stackelberg oligopoly solutions.

Be able to map out quantity and profit implications of these solutions, and compare them to monopoly and competitive market outcomes.

What is a monopsony, and how do we analyze it?

What is a Nash best-response strategy? Be ready to use this concept to analyze strategic interactions.

Chapter 18.

When is an externality positive and when is it negative? How is an externality defined?

What is Pareto optimality, and how do we know if an alternative Pareto improves on an original allocation?

When is there a difference between private and social cost?

Why can there be a deadweight loss in a competitive market in the presence of an externality?

Why is a monopoly potentially welfare improving on a perfectly competitive market in the presence of an externality?

What is an emissions fee?

What is an emissions standard?

What is a Pigovian tax and how do we find it on a graph?

What is the distinction between point source and not point source pollution, and why does it matter?

What is the Coase theorem, what does it have to say about efficiency, and what does it say about equity?

Be able to solve the Coase theorem example in game theory terms as we did in class.

When does the Coase theorem break down (transaction costs, information asymmetries, strategic bargaining).

What is the source of the problem in an open access "tragedy of the commons" model.

Be able to solve for best response in a tragedy of the commons model.

Note how privatizing or use limits can lead to efficient outcome, and be able to evaluate these efficient outcomes in terms of Pareto improvement.

What are the characteristics of public goods (non-rivalry, non-exclusion).

Be able to fill in the box of the four types of goods in terms of rivalry / non rivalry / exclusion / non exclusion.

How do we derive the social demand curve for a public good.

What is the free rider problem?

What are ways around the free rider problem?

Why is the median voter approach to provision of public goods not necessarily going to identify the project where benefits outweigh costs or where benefits are maximized?

How do we determine whether a voter will vote yes or no given project costs and voters' WTP?

What is the basic idea of hedonic analysis?

What is the basic idea of contingent valuation analysis?

What is the basic idea of travel cost analysis?

What can be learned from studying private good substitutes for a public good?

Cost-Benefit Analysis.

How do we define the situation?

What goes into estimating costs and benefits?

How do we treat goods already owned by an implementing entity?

How do we distinguish between transfers and costs (or benefits).

What is a shadow price, and under what conditions will it diverge from the market price?

Why do we discount?

How do we choose a discount rate?

Do we increase or decrease the weight of future costs and benefits by increasing the discount rate?

What are "flows", and how do they relate to net present values?

Be able to calculate in present value terms the value of the promise of a fixed amount of money in the future given a prevailing interest rate.

Be able to calculate costs and benefits in NPV terms out to at least two years.

Be able to compare alternative programs in NPV terms.

Can you include finance charges or tax payments as costs if you are analyzing what is best for society overall? Why or why not.

What is the role of equity in CBA?

How do we interpret results, and what are the merits and demerits of the two methods presented in class (NPV and BC ratio).

Sensitivity analysis. Be sure you can calculate under different parameter scenarios, and identify where the point is that one scenario turns out to be better than another.