PRINCIPLES OF ECONOMICS SKILLS ASSESSMENT, MICROECONOMICS
(PESA-Micro)
LEARNING GOALS
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General Goals

Introductory Microeconomics courses serve two distinct groups. For many students, it will be the only economics course they ever take. We expect these students to complete the course with the following general skills:

- Understand that social science questions can be addressed with formal economic models and articulate how to construct and test economic models.
- Develop the ability to understand and work with fundamental market models of economic activity.
- Identify and characterize the strengths and weaknesses of market outcomes.
- Identify and characterize market failures rooted in, for example, externalities and/or market power, and discuss methods for their mitigation.
- Apply their knowledge and understanding of how markets function to critically assess a wide range of issues they encounter in the "real world" via media (news articles, podcasts, etc.) and other outlets.
- Understand how economists approach analyzing real world situations and apply economic models to make choices, predictions, and policy recommendations.

For students pursing the economics major or concentrating on an economics curriculum, this course serves as a stepping-stone in the study of economics. In addition to the skills listed above, it provides students with economic intuition and familiarizes them with model-based approaches to examining the behavior of economic agents (individuals, firms, policy makers, etc.). It prepares students for higher level economics courses, and, in particular, introduces models which are further formalized and extended in intermediate-level courses in microeconomics.

Specific Goals

1. Big picture concepts
    a. Define economics with respect to the allocation of scarce resources.
    b. Define economics with respect to the behavior of agents and the environments in which they interact.

c. Differentiate between microeconomics and macroeconomics.

d. Recognize the breadth of topics studied and questions addressed by economists.

e. Describe what it means to construct and test an economic model.

f. Describe how one evaluates the assumptions, appropriateness, and usefulness of economic models when they are applied to real world contexts.

g. Differentiate between normative and positive statements.

2. Trade-offs with one entity

   a. Understand the concept of opportunity cost and how it is measured in economic contexts.

   b. Derive and interpret the production possibility frontier (PPF).

   c. Use a PPF to describe economic options and tradeoffs when considering only one entity (e.g., one agent, one producer, one country).

3. Trade-offs with more than one entity

   a. Compare and contrast the notions of comparative advantage and absolute advantage.

   b. Apply the concepts of comparative and absolute advantage together with the production possibility frontier model to examine gains from trade.

   c. When considering more than one entity, describe the joint production possibility frontier and its connection to gains to trade.

4. Market demand

   a. Know the definition of market demand and explain the difference between the demand function and the demand curve.

   b. Understand the "law of demand" (including the fact that the "law" is a consequence of modeling assumptions used in economics).

   c. Interpret demand curves as represented by 1) a table, 2) a chart and 3) an equation.

   d. Distinguish between changes in demand and changes in quantity demanded.

   e. Identify which factors are held constant when constructing a demand curve and explain how changes in these factors affect demand.

   f. Obtain market demand from individual demand curves using horizontal summation.

5. Market supply

   a. Define market supply and explain the difference between the supply function and the supply curve.

b. Understand the "law of supply" (including the fact that the "law" is a consequence of modeling assumptions used in economics).
c. Interpret supply curves as represented by 1) a table, 2) a chart and 3) an equation.
d. Distinguish between changes in supply and changes in quantity supplied.
e. Identify which factors are held constant when constructing a supply curve and explain how changes in these factors affect supply.
f. Obtain market supply from individual supply curves using horizontal summation.

6. Equilibrium Analysis
   a. Understand and apply the concept of equilibrium to the market model.
   b. Understand and apply surplus measures to discuss market efficiency and equity.
   c. Know the definition of an elasticity measure and be able to calculate and interpret various demand and supply elasticities.

7. Externalities and public goods
   a. Distinguish between private and social benefits and costs in the presence of negative and positive externalities.
   b. Articulate the notion of market failure with respect to surplus measures and efficiency definitions.
   c. Identify and represent market situations in which externalities arise and explain how markets and government can address these situations.
   d. Apply the definitions of excludable, non-excludable, rivalrous, and non-rivalrous goods to classify goods into public and private goods.

8. Standard policy interventions
   a. Define taxes, subsidies, price ceilings, price floors, and quotas.
   b. Evaluate the resulting changes to equilibrium quantities and prices.
   c. Evaluate the resulting changes in consumer and producer surplus.
   d. Understand the role demand and supply elasticities play in the extent to which policy interventions affect the consumers and producers in the market.
   e. Discuss which of these policy interventions can be used to address different market failures.
   f. Recognize these policy interventions in different contexts (e.g., minimum wage, rent control, and tariffs).

9. Consumer theory
    a. Explain the relationship between preferences, utility functions, and indifference curve maps.
    b. Interpret graphical, mathematical, and textual representations of the consumer's budget set.
    c. Understand and articulate the fundamental consumer choice problem and how its solution is determined.
    d. Know and apply the conditions for an individual's utility maximization to obtain the individual's optimal bundle.
    e. Analyze the effects of changes in market prices and income on a consumer's demand for goods and on their well-being.
    f. Demonstrate how to use the consumer theory model in applied consumer choice settings (e.g., food stamps, taxes, subsidies, two-part pricing).

10. Producer theory
    a. Understand how production of goods/services by firms is modeled and represented by production functions.
    b. Differentiate between short run and long run in the context of production and discuss why some factors of production are more likely to be flexible and why others can only be adjusted periodically.
    c. Know and interpret a firm's cost structures and demonstrate them graphically from both the short run and long run points of view.
    d. Know the formal definition of economic profit and distinguish it from accounting profit.
    e. Understand and articulate the firm's fundamental profit maximization problem and how its solution is determined.

11. Market structure
    a. Define and enumerate the assumptions behind a perfectly competitive market, a monopoly, monopolistic competition, and an oligopoly.
    b. Given a description of a market, identify the appropriate model (i.e., perfect competition, monopoly, monopolistic competition, oligopoly, or none of the above).
    c. Analyze the conduct and performance of firm(s) engaged in perfect competition, monopoly, monopolistic competition and oligopoly.

12. Game theory

a. Explain the kinds of situations game theory can be used to model.
b. Define a dominant strategy equilibrium and a Nash equilibrium.
c. Solve for the dominant strategy equilibrium and Nash equilibrium in pure strategies for a simple two-player, one shot, simultaneously played, full information game.
d. Apply game theory concepts to the oligopoly model.

Optional Goals

1. Formally specify the consumer's utility maximization problem subject to a budget constraint and from that determine the consumer's demand system and market demand.

2. Define a perfectly discriminating monopolist and analyze the behavior of such a firm.

3. Economic inequality
    a. Measure inequality in a population using Lorenz curves and Gini coefficients.
    b. Discuss the primary determinants of economic inequality in the developing and developed world.
    c. Discuss the potential consequences of economic inequality on individual and economy-level outcomes.
    d. Discuss potential policy interventions to reduce inequality.