

## GCP 504 Study Guide

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Note: MB refers to *Marchall's Blackberries* and IIE refers to *Introduction to International Economics*.

### *Exams*

Both the mid-term and final exams will be composed of *four to five questions*. Each of these will have sub-questions, such as 2a, 2b etcetera. I will try to write the exam as best I can so that you will be able to finish it in the time allowed.

The Schar School does not provide blue/green books for the exams, so I need to ask you to bring one of these to each exam. Make sure that these are the larger size. Smaller exam books strongly correlate with lower scores.

Exam questions will include definitions, graphing exercises, elasticity calculations, and concept analysis.

Do not leave anything blank! If you cannot answer a question fully, answer it in part. If you are really struggling with a question, tell me what you do know about it. Stay calm and do your best!

### *Introduction (MB Chapter 1 and IIE Chapter 1)*

Current trends in international trade, international production, and international finance

The microeconomics framework

Resource scarcity and resource categories:

natural resources, physical capital, human capital, knowledge capital, and social capital

Types of economic choices societies face:

ownership decision, resource allocation decision, product output and mix decisions, and product distribution decision

Definition of microeconomics and *preliminary* definitions of opportunity costs and marginals

*Tools of Analysis (MB Chapter 2)*

Economic variables, economic models, and functions

Linear equations (slopes, intercepts) and their use in the resource allocation problem

Opportunity cost

Nonlinear graphs

Totals, marginals, averages

Production possibilities frontiers and increasing opportunity costs of production

*Supply and Demand Model (MB Chapter 3)*

Circular flow diagram: households, firms, output markets, input markets

Household demand in output markets:

Quantity demanded and the "law of demand"

Changes in demand vs. changes in quantity demanded

Firm supply in output markets:

Quantity supplied and the "law of supply"

Changes in supply vs. changes in quantity supplied

Market equilibrium

Excess supply and excess demand

*Elasticities (MB Chapter 4)*

Ratio of percentage changes

Price elasticity of demand

Income elasticity of demand

Cross-price elasticity of demand

Price elasticity of supply

Inelastic, unit elastic, elastic

Inferior, normal, and luxury goods

Price ceilings and price floors

The price elasticity of demand and firm revenue

*Allocative Efficiency and Taxes (MB Chapter 5)*

Demand side

willingness to pay, consumer surplus, and demand curve as MB curve

Supply side

willingness to accept, producer surplus, and supply curve as MC curve

Allocative efficiency as a positive aspect of market systems

Analyzing a tax in the supply and demand model- deadweight loss

*The Theory of the Firm (MB Chapter 6)*

Perfect competition

Production function

Total, average, and marginal products of labor

The law of diminishing returns

Economic costs vs. accounting costs

The short run cost curves: TFC, AFC, TVC, MC, AVC, TC, ATC

The relationships among the short run cost curves

Revenue: total revenue and marginal revenue

*The Theory of the Firm Continued (MB Chapter 7)*

Short run:

Short run profit maximization under perfect competition:  $MR = MC$  or  $P = MC$

MC as short run supply curve

Break-even and shut-down points

Long run:

Returns to scale: constant, increasing, decreasing

Long-run average costs

Long run profit maximization and the entry/exit decision

Two long-run rules:  $P = LMC$  and  $P = LAC$

*Mid-term through here. Study hints:*

Make sure you are comfortable drawing all of the diagrams we have gone through so far in the class. Next, change things in these diagrams. For example, what happens in the PPF diagram when there is an improvement in technology? What happens in the supply and demand diagram when input prices increase? What happens to the profit maximizing point in the MC/AVC/ATC diagram when the price increases?

Focus also on definitions. Can you define the elasticities? Can you define the cost concepts? Do you know how to calculate an elasticity?

*Sample Mid-Term Questions*

1. This question concerns the *supply and demand model* and *elasticities*.
  - a. Consider a market for a product with a price floor in place. The price floor is at a price of 20, the quantity demanded is 50, and the quantity supplied is 150. Draw a supply and demand diagram illustrating the above situation, including the excess supply.
  - b. Next suppose that the price floor is reduced to 15. Suppose also that  $E_p^S = 1.0$  and that  $E_p^D = -0.5$ . What will be the new level of excess supply? Please show your work.

Hint (note that hints like this won't be on the exams):

Supply side:

$$1.0 = \frac{\frac{\Delta Q}{150}}{\frac{-5}{20}}$$

Demand side:

$$-0.5 = \frac{\frac{\Delta Q}{50}}{\frac{-5}{20}}$$

In both cases, solve for to get the  $\Delta Q$  on each side of the market. The changes in quantity, along with the original quantities, give you the new quantity.

2. This question concerns a profit-maximizing firm operating in the short run in a perfectly competitive industry.
  - a. Use four graphs (ATC, AVC, MC, and MR) to depict the firm in the case of positive economic profits. Label the profit rectangle.
  - b. Use four graphs (ATC, AVC, MC, and MR) to depict the firm in the case of profits on operation. Label the profit-on-operation rectangle.
  - c. Please state the profit maximization rule that you used in the above two diagrams.

### *Market Failure (MB Chapter 8)*

#### Imperfect competition- monopoly

MR curve of monopoly

Profit maximization of monopoly

Inefficiency of monopoly

Natural monopoly

Policy responses

#### Externalities

Definition and types

Inefficiency in presence of externalities

Policy responses- taxes, tradable permits

#### Public goods

Definitions

excludability and rivalry

private good, pure public good, club good, common property resource

Free-rider problem

*Absolute Advantage and the Ricardian Model of Comparative Advantage (IIE Chapters 2 and 3)*

Absolute advantage:

Definition

Introducing international trade into the supply and demand diagram:

absolute advantage and the resulting pattern of trade

Using consumer surplus and producer surplus to demonstrate the gains from trade.

Ricardian model:

Demand diagonals

Linear PPFs and their slopes representing technological differences and their opportunity costs of production

Autarky and comparative advantage (differences in linear slopes due to difference in technology)

Comparative advantage and trade. Note that there is an erratum posted for Figure 3.5. Apologies!

Complete specialization in production (production movements from points A to points B)

Mutual gains from trade (consumption movements from points A to points C)

This is a model of inter-industry trade (either import or export in a sector)

*The Heckscher-Ohlin Model of Comparative Advantage and Intra-Industry Trade (IIE Chapters 4 and 5)*

Heckscher-Ohlin model:

Demand diagonals

Factor endowments  $\Leftrightarrow$  Countries

Factor intensities  $\Leftrightarrow$  Sectors

Increasingly negative PPFs reflecting interaction of factor endowments and factor intensities with consequent increasing opportunity costs of production

Autarky and comparative advantage (differences in slopes due to difference in endowments)

Comparative advantage and trade.

Incomplete specialization in production (production movements from points A to points B)

Mutual gains from trade (consumption movements from points A to points C)

This is a model of inter-industry trade (either import or export in a sector)

Intra-industry trade:

Definition of intra-industry trade (both import and export in a sector)

Horizontal vs. vertical (fragmentation)

Monopolistic competition model

Smooth adjustment hypothesis

*Political Economy of Trade and Trade Policy (IIE Chapters 6 and 7)*

Heckscher-Ohlin theory based on factor endowments

The Stolper-Samuelson theorem

North-South trade and wages

Role of specific factors in trade politics

Analysis of a tariff, including the terms-of-trade effect

Analysis of a quota, including difference between domestic-allocated and foreign-allocated quota rights

*The WTO and Preferential Trade Agreements (IIE Chapters 8 and 9)*

Nondiscrimination: most-favored nation (border) and national treatment (behind border)

The tripod: trade in goods (GATT94), trade in services (GATS), and trade-related intellectual property (TRIPS)

Dispute Settlement

Preferential/Regional trade agreements (PTAs/RTAs)

Free trade areas and customs unions

Trade creation and trade diversion

*Final exam through here. Study hints:*

Again, remember to bring an exam book. Also, remember that the final exam is *cumulative*. So you need to study the entire semester. Are there things you did not understand on the midterm exam? If so, make sure you understand them. The new material on international trade uses a lot of different diagrams. Make sure you know what type of diagrams to use for each model:

Absolute advantage: supply and demand diagrams

Ricardian model: linear PPFs

Heckscher-Ohlin model: increasingly negative PPF

Intra-industry trade: monopolistic competition model

Remember the advice at the beginning of this document. Do not leave anything blank! If you cannot answer a question fully, answer it in part. If you are really struggling with a question, tell me what you do know about it. Stay calm and do your best!



*Sample Final Exam Questions*

Remember that the final is cumulative, so similar questions from the mid-term can appear on the final exam.

1. This question concerns a *natural monopoly*.
  - a. Please draw a diagram for a natural monopoly consisting of a demand curve, a marginal revenue curve, and an average cost curve.
  - b. Please identify the profit-maximizing level of output for the natural monopoly and explain why this is such a level of output.
  - c. Please assess this profit-maximizing level of output from a public policy standpoint. Is it where we would like to be? Why or why not?
  - d. Please offer suggestions for how a government might modify the above outcome and why it might do so.
2. Consider two countries, Korea (K) and Malaysia (M), and two goods, lumber (L) and automobiles (A). Korea is physical capital abundant relative to Malaysia, and automobiles are physical capital intensive.
  - a. Draw PPFs for both countries with lumber on the horizontal axis.
  - b. Illustrate the autarky equilibrium in both countries by adding the demand diagonals and autarky price lines.
  - c. If K denotes Korea, M denotes Malaysia, L denotes lumber, and A denotes automobiles, use  $\left(\frac{P_L}{P_A}\right)^K$  and  $\left(\frac{P_L}{P_A}\right)^M$  to describe the pattern of comparative advantage.
  - d. In a new pair of PPF diagrams, illustrate the trading equilibrium with  $\left(\frac{P_L}{P_A}\right)^W$ . For both countries, illustrate the production point (B), the consumption point (C), the quantity of imports, and the quantity of exports.