



Principles of Microeconomics

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OpenStax	Steve Greenlaw - University of Mary Washington	Principles of Microeconomics	OpenStax
Marginal Revolution University	Tyler Cowen and Alex Tabarrok		MRUniversity Videos

Alta Microeconomics was developed to meet the scope and sequence of most introductory microeconomics courses. To develop the course, Knewton used three main sources of content: OpenStax, Marginal Revolution University, and a team of Subject Matter Experts (SMEs). The SMEs come from diverse backgrounds and are all accomplished academics in the field of economics.

Alta Microeconomics has two pieces of instruction (video and text) for every application-based learning objective, giving students multiple, diverse opportunities to learn new skills, and text instruction for definition-based concepts. Among our OpenStax text, Marginal Revolution University videos, and Knewton SMEs, we were able to solicit ideas from economics instructors and students. Alta Microeconomics covers the typical breadth of economics topics, and also provides the necessary depth to ensure the course is manageable and engaging for instructors and students alike.

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Chapter 1: Welcome to Economics!

1.1 What is Economics and Why is it Important?

- Evaluate the significance of scarcity
- Explain the relationship between production and division of labor
- Contrast microeconomics and macroeconomics

1.2 Economic Theories, Models, and Systems

- Explain the importance of economic theories and models
- Interpret a circular flow diagram
- Contrast traditional economies, command economies, and market economies
- Assess the importance and effects of globalization

Chapter 2: Choice in a World of Scarcity

2.1 How Individuals Make Choices Based on Their Budget Constraint

- Interpret budget constraints
- Calculate a budget constraint using an equation
- Graph budget constraints
- Explain opportunity cost
- Calculate opportunity cost
- Understand how to use marginal analysis
- Define sunk costs
- Explain the law of diminishing marginal utility

2.2 The Production Possibilities Frontier and Social Choices

- Define production possibilities frontier
- Calculate opportunity cost based on a production possibilities frontier
- Understand the law of diminishing returns and how it relates to the shape of the PPF
- Define productive efficiency and allocative efficiency
- Define comparative advantage

2.3 Confronting Objections to the Economic Approach

- Recall arguments against economic approaches to decision-making
- Classify normative statements and positive statements

Chapter 3: Introduction to Demand and Supply

3.1 Demand, Supply, and Equilibrium in Markets for Goods and Services

- Explain demand, quantity demanded, and the law of demand
 - Interpret demand schedules and demand curves
 - Explain supply, quantity supplied, and the law of supply
 - Interpret supply schedules and supply curves
 - Define equilibrium
 - Identify equilibrium using demand/supply curves
 - Identify equilibrium using demand/supply schedules
 - Explain how a market moves from shortage or surplus to an equilibrium
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3.2 Shifts in Demand and Supply for Goods and Services

- Define the ceteris paribus assumption
- Contrast normal and inferior goods
- Identify the effects of income on shifts in demand
- Explain how changes in price of substitute goods can affect demand
- Explain how changes in price of complement goods can affect demand
- Identify factors that shift demand curves
- Explain how changes in the price of inputs affect supply
- Identify factors that shift supply curves
- Graph shifts in demand
- Graph shifts in supply

3.3 Changes in Equilibrium Price and Quantity: The Four-Step Process

- Use the four-step process to explain how shifts in demand affect equilibrium
- Use the four-step process to explain how shifts in supply affect equilibrium
- Use a supply and demand schedule to explain how shifts in demand or supply affect equilibrium
- Use the four-step process to explain how simultaneous shifts in supply and demand affect equilibrium
- Contrast shifts of demand or supply and movements along a demand or supply curve

3.4 Price Ceilings and Price Floors

- Explain price ceilings
- Explain price floors
- Analyze the effects of price floors on market equilibrium
- Analyze the effects of price ceilings on market equilibrium

3.5 Demand, Supply, and Efficiency

- Define Consumer Surplus
- Define Producer Surplus
- Explain how price ceilings and price floors reduce social surplus
- Explain why taxes on buyers and sellers can be inefficient

Chapter 4: Labor and Financial Markets

4.1 Demand and Supply at Work in Labor Markets

- Identify equilibrium in the labor market using supply and demand schedules or curves
- Explain shifts in the demand curves of the labor market
- Explain how shifts in demand and supply for labor affect labor market equilibrium
- Explain shifts in the supply curves of the labor market
- Explain price floors in the labor market such as minimum wage or a living wage

4.2 Demand and Supply in Financial Markets

- Identify the demanders and suppliers in a financial market
 - Explain how the interest rate affects equilibrium in the financial market
 - Explain how interest rates can affect supply and demand
 - Analyze how shifts in the supply of financial capital affect equilibrium
 - Analyze how shifts in the demand for financial capital affect equilibrium
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4.3 The Market System as an Efficient Mechanism for Information

- Understand the market system as an efficient mechanism for information
- Apply demand and supply models to analyze prices and quantities

Chapter 5: Elasticity

5.1 Price Elasticity of Demand and Price Elasticity of Supply

- Define price elasticity
- Classify price elasticity as elastic, inelastic, or unitary
- Calculate the price elasticity of demand
- Calculate the price elasticity of supply
- Contrast price elasticity with slope

5.2 Polar Cases of Elasticity and Constant Elasticity

- Define and identify polar cases of elasticity
- Distinguish areas on a demand or supply curve that are inelastic, unitary elastic, and elastic

5.3 Elasticity and Pricing

- Explain the relationship between changes in price and total revenue based on the elasticity of demand
- Explain the relationship between shifts in supply and changes in equilibrium price based on the elasticity of demand
- Explain the relationship between elasticity and tax incidence
- Explain the long-run and short-run impacts of elasticity

5.4 Elasticity in Areas Other Than Price

- Define income elasticity of demand
- Calculate income elasticity of demand
- Define cross-price elasticity of demand
- Calculate cross-price elasticity of demand
- Define elasticity in labor and financial capital markets

Chapter 6: Consumer Choices

6.1 Consumption Choices

- Calculate marginal utility
- Calculate total utility from consuming a bundle of goods
- Use marginal utility to understand how consumers make utility maximizing decisions
- Use the utility maximizing rule to determine an individual's consumption choices

6.2 Consumption Choices and Behavioral Economics

- Understand how changing income affects a consumer's utility maximizing choice of goods
 - Understand how changing prices affect a consumer's utility maximizing choice of goods
 - Understand how to draw a demand curve based on consumer reactions to price changes
 - Define and understand basic concepts in behavioral economics
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Chapter 7: Production, Costs, and Industry Structure

7.1 Explicit and Implicit Costs, and Accounting and Economic Profit

- Understand the concept of the firm and production
- Understand revenue, cost, and profits
- Use revenue and cost information to calculate accounting and economic profit

7.2 Production in the Short Run

- Understand the factors of production and be able to group factors into one of five categories
- Understand and differentiate between fixed and variable inputs in production
- Calculate marginal product and understand the law of diminishing marginal product

7.3 Costs in the Short Run

- Identify the factor payments associated with the five factors of production
- Calculate cost from a production function
- Use a cost function to calculate marginal and average costs
- Understand fixed, variable, and total costs of production
- Use fixed and variable costs to calculate average variable, average fixed, and average total costs
- Identify average total cost, average variable cost, and marginal cost on a graph
- Define average profit and profit margin

7.4 Costs in the Long Run

- Understand the relationship between labor and machinery prices and firm production decisions
- Recognize when an average cost curve exhibits economics of scale
- Understand the long run average cost curve and identify the economies of scale and constant returns to scale zones
- Understand diseconomies of scale and identify this on the long run average cost curve
- Understand the relationship between the shape of the long-run average cost curve and industry structure

Chapter 8: Perfect Competition

8.1 How Perfectly Competitive Firms Make Output Decisions

- Understand market structure and the characteristics of a perfectly competitive industry
- Understand two different formulas for calculating profit
- Use a graph or table to determine the profit-maximizing level of output based on total revenue and total cost
- Use total revenue to calculate marginal revenue in perfect competition
- Find the profit-maximizing level of output using marginal revenue and marginal cost
- Understand profit margin and identify profit on a graph
- Use price and average total cost to calculate profit
- Understand the firm's short run production decision and identify the short run supply curve

8.2 Entry and Exit in the Long Run and Efficiency in Perfectly Competitive Markets

- Understand why firms enter or exit a competitive industry
 - Understand how a competitive industry arrives at the long run equilibrium
 - Understand the cost structure of a competitive industry and identify long run industry supply on a graph
 - Understand efficiency and how it relates to perfect competition
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Chapter 9: Monopoly

9.1 How Monopolies Form: Barriers to Entry

- Understand monopoly and barriers to entry
- Understand how natural monopolies arise and identify them graphically
- Understand control of a physical resource, legal restrictions, intellectual property, and predatory pricing as sources of barriers to entry

9.2 How a Profit-Maximizing Monopoly Chooses Output and Price

- Differentiate between demand facing a perfectly competitive firm and a monopolist
- Use total revenue to calculate marginal revenue for a monopolist
- Use marginal revenue and marginal cost to find the profit maximizing quantity and calculate profits
- Identify monopoly profits on a graph and determine the monopolist's price
- Understand allocative efficiency in a monopoly

Chapter 10: Monopolistic Competition and Oligopoly

10.1 Introduction to Monopolistic Competition and Oligopoly

- Remember the characteristics of monopolistic competition and oligopoly
- Identify examples of product differentiation
- Understand demand as perceived by a monopolistically competitive firm
- Use a graph or table to determine the monopolistic competitor's outcome
- Use a graph or table to determine the monopolistic competitor's profit
- Illustrate the transition to the long run in monopolistic competition when firms make short run profits
- Illustrate the transition to the long run in monopolistic competition when firms suffer short run losses
- Understand efficiency in monopolistic competition
- Understand the benefits of product differentiation and how advertising affects monopolistic competition

10.2 Oligopoly

- Understand how oligopolies form and how they could work together in production decisions
- Understand game theory and the prisoner's dilemma
- Understand how the prisoner's dilemma relates to oligopoly and calculate the game's outcome
- Calculate the no-cooperation equilibrium in oligopoly
- Explain the kinked demand curve model of oligopoly

Chapter 11: Monopoly and Antitrust Policy

11.1 Corporate Mergers

- Define mergers, acquisitions, and antitrust law
 - Use market shares to calculate the four-firm concentration ratio
 - Define and calculate the Herfindahl-Hirschman Index
 - Understand how the FTC uses the HHI
 - Understand new approaches to antitrust policy
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11.2 Regulating Anticompetitive Behavior and Natural Monopolies

- Understand restrictive practices and why regulators seek to regulate them
- Interpret a graph of regulatory choices for natural monopoly
- Understand the consequences of various regulatory choices for natural monopoly
- Understand the costs and benefits of cost-plus and price cap regulation
- Understand the effects of late 20th century deregulations in the US
- Explain regulation in the financial industry

Chapter 12: Environmental Protection and Negative Externalities

12.1 The Economics of Pollution and Command-and-Control Regulation

- Identify examples of positive and negative externalities
- Graph a market with a negative externality
- Identify the market and socially optimal equilibria in a market with a negative externality
- Identify command-and-control regulation and understand its drawbacks

12.2 Market-Oriented Environmental Tools

- Understand pollution charges as a market-oriented environmental tool
- Understand marketable permits as a market-oriented environmental tool
- Understand property rights as a solution to negative externality

12.3 The Benefits and Costs of U.S. Environmental Laws, International Environmental Issues, and The Tradeoff Between Economic Output and Environmental Protection

- Explain the costs and benefits of the Clean Air Act and ecotourism
- Use a marginal benefits-marginal costs graph to analyze regulatory choice
- Understand the role of the Paris Climate Agreement in addressing international externalities
- Understand the tradeoff between environmental protection and production

Chapter 13: Positive Externalities and Public Goods

13.1 Why the Private Sector Underinvests in Innovation and How Governments Can Encourage Innovation

- Understand private and social benefits and illustrate them graphically
- Understand the positive externalities of education
- Understand how subsidies can be a solution to positive externalities and illustrate this graphically
- Define intellectual property rights and understand why they are not always effective for promoting innovation
- Understand alternative government policies for promoting research and development

13.2 Public Goods

- Identify goods that are non-rival and non-excludable as public goods
- Understand the free rider problem and why it leads government to provide some public goods
- Understand common resources and the tragedy of the commons
- Explain how public health programs create positive externalities

Chapter 14: Labor Markets and Income

14.1 The Theory of Labor Markets

- Calculate and graph the marginal product of labor
 - Calculate the value of marginal product of labor and plot it on a graph
 - Understand how firms in competitive labor markets choose how many workers to hire
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- Calculate and graph marginal revenue product in imperfectly competitive output markets
- Understand how imperfectly competitive firms choose how much labor to employ
- Understand equilibrium wage and employment in a labor market

14.2 Wages and Employment in an Imperfectly Competitive Labor Market

- Understand why workers receive protection from labor laws and identify examples of such protections
- Define monopsony power
- Calculate and graph marginal cost of labor for a monopsony firm
- Use a graph to identify a monopsony firm's level of employment and wage
- Use a graph to identify differences between the outcome in a competitive labor market and a monopsony labor market

14.3 Market Power on the Supply Side of Markets and Bilateral Monopoly

- Define unions and remember basic facts about union membership in the US
- Understand how unions can affect wages
- Explain the tradeoff between wages and employment and understand the potential impacts of unions on worker productivity
- Understand possible explanations for the decline in union membership in the US
- Understand how bilateral monopoly affects employment and wages in labor markets

14.4 Employment Discrimination and Immigration

- Define discrimination and understand trends in wage ratios over the past 50 years
- Understand factors that affect female-male wage ratios
- Understand factors that affect black-white wage ratios
- Understand how competitive markets, the government, and growing diversity can help reduce discrimination
- Understand the costs and benefits, historical trends, and policy regarding immigration

Chapter 15: Poverty and Economic Inequality

15.1 The Poverty Line and The Poverty Trap

- Define basic definitions related to poverty
- Identify patterns of inequality in the US and abroad
- Explain the poverty trap and use a labor-leisure budget constraint to illustrate this scenario
- Explain how a guaranteed income program discourages work
- Use a labor-leisure budget constraint to draw a guaranteed income program with a phase-out
- Use a graph to show how a guaranteed income program with phase-out provides a greater incentive to work

15.2 The Safety Net and Income Inequality

- Explain the government programs of the Temporary Assistance for Needy Families and the Earned Income Tax Credit
 - Explain the Supplemental Nutrition Assistance Program and Medicaid
 - Describe the US income distribution using income quintiles
 - Use a quintile income distribution to calculate and graph a Lorenz curve
 - Explain how a Lorenz curve measures inequality
 - Understand how income inequality has been affected by household composition and labor demand
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15.3 Government Policies to Reduce Inequality

- Define redistribution, progressive tax, effective income tax
- Explain the ladder of opportunity and estate tax
- Use a production possibilities frontier to illustrate the tradeoff between incentives and income inequality

Chapter 16: Information, Risk, and Insurance

16.1 The Problem of Imperfect Information and Asymmetric Information

- Explain asymmetric and imperfect information and how the "lemons" problem can arise
- Explain how markets with imperfect information will have trouble reaching an equilibrium price
- Explain how money-back guarantees, warranties, and service contracts reduce the risk of imperfect information
- Explain how occupational licenses, cosigners, and collateral reduce the risk of imperfect information

16.2 Insurance and Imperfect Information

- Calculate actuarial fair premiums
- Identify the government social insurance programs in the US
- Understand risk groups and their effect on premiums
- Understand moral hazard and what insurance companies can do to prevent it
- Define adverse selection and describe how this can be a problem for insurers
- Explain U.S. healthcare in an international context
- Understand the role for government in insurance markets
- Understand the Patient Protection and Affordable Care Act

Chapter 17: Introduction to Financial Markets

17.1 How Businesses Raise Financial Capital

- Explain financial markets and understand venture capital and profits as source of financial capital
- Understand bonds and explain the benefits and costs of bonds relative to bank loans
- Explain how corporations raise money and give investors a return on investment
- Define private and public companies
- Explain how firms go about deciding which source of financial capital to use

17.2 How Households Supply Financial Capital

- Define liquidity, risk, and rate of return
 - Understand banks as financial intermediaries and explain the ways households use banks
 - Understand how bond interest rates vary with risk and maturity rate
 - Define important bond terminology
 - Calculate a bond's yield rate
 - Understand the major US stock indexes
 - Define diversification, mutual funds, and index funds
 - Calculate real estate equity
 - Understand the housing bubble
 - Understand the tradeoff between risk and return
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17.3 How to Accumulate Personal Wealth

- Explain Random Walk Theory
- Calculate simple interest
- Calculate compound interest

Chapter 18: Public Economy

18.1 Voter Participation and Costs of Elections, Special Interest Politics, Flaws in the Democratic System of Government

- Understand why people do and don't vote in political elections
- Evaluate the impact of election expenses
- Understand how lobbyists can help enact the interests of a minority
- Explain pork-barrel spending and logrolling
- Define majority rule and understand why political outcomes may not reflect it
- Identify and explain voting cycles
- Understand the costs and benefits of the role of government in an economy

Chapter 19: International Trade

19.1 Absolute and Comparative Advantage

- Explain comparative advantage and determine which country has an absolute advantage in producing a good
- Draw a country's production possibilities frontier
- Calculate a country's opportunity cost of producing one unit of a good and use this to determine comparative advantage
- Explain the relationship between comparative advantage and specialize and calculate world production before and after specialization
- Illustrate how trade can move a country beyond its production possibilities frontier

19.2 Absolute Advantage, Intra-Industry Trade Between Similar Economies, and Reducing the Barriers to International Trade

- Relate absolute advantage and labor productivity and calculate the increase in world output due to specialization even if one country has both absolute advantages
- Illustrate gains from trade when one country has an absolute advantage in both goods
- Explain why comparative advantage increases production for all countries
- Define and explain intra-industry trade
- Explain the World Trade Organization and understand the benefits to reducing trade barriers

Chapter 20: Globalization and Protectionism

20.1 Protectionism: An Indirect Subsidy from Consumers to Producers

- Explain protectionism, GATT, and WTO
 - Identify equilibrium prices for a good in two countries with and without trade
 - Calculate exports and imports using supply and demand diagrams
 - Identify gains from trade on a supply and demand diagram
 - Use a supply and demand diagram to illustrate the impact of imports and identify the impact on domestic market price
 - Explain who benefits and who loses from protectionism
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20.2 The Effects of International Trade and Arguments in Favor of Restricting Imports

- Explain how protectionism and trade affect jobs, wages, and working conditions
- Explain the infant industry argument and dumping
- Explain the environmental protection argument, the unsafe consumer products argument, and the national interest argument

20.3 How Governments Enact Trade Policy and The Tradeoffs of Trade Policy

- Explain The main objective of the WTO/GATT and understand regional trade agreements
- Explain the relationship between free trade and domestic interests and how trade policy has evolved over time
- Explain why free trade should be a first priority for policymakers

Appendices

A.1 Indifference Curves

- Draw an indifference curve
- Interpret an indifference curve and explain its slope
- Explain why higher indifference curves are preferred to lower ones and how indifference curves differ across individuals
- Understand how an individual uses indifference curves and a budget line to maximize utility
- Explain how changes in income affect the utility maximizing choice
- Identify the income and substitution effects graphically
- Draw a labor-leisure indifference curve and budget line
- Explain the effect of a change in the wage on a worker's labor-leisure choice
- Draw an intertemporal choice indifference curve and budget line
- Explain the effect of a change in the interest rate on the choice between present and future consumption
- Sketch income and substitution effects

A.2 Present Discounted Value

- Calculate present discounted value of a stock
- Calculate present discounted value of a bond and understand the relationship between present value and interest rates

A.3 The Expenditure-Output Model

- Identify aggregate expenditure, the 45-degree line, and potential output on a graph
 - Define MPC and MPS
 - Draw a pre-tax consumption function
 - Explain the investment function and government spending function
 - Draw a post-tax consumption function
 - Explain the exports function and draw an imports function
 - Use the expenditure-output model to calculate expenditure and analyze how changing components affect expenditure
 - Explain equilibrium in the Keynesian cross model
 - Identify inflationary and recessionary gaps on an aggregate expenditure gap
 - Calculate and explain the spending multiplier
 - Use the spending multiplier to calculate the effect of an increase in spending on Real GDP
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