

ECONOMICS

An Introduction to Economics and Technology, Innovation, and the Economy

- I. FUNDAMENTAL ECONOMIC CONCEPTS 10%
 - A. Basic Assumptions of Economics
 - 1. Scarcity
 - 2. Trade-offs
 - 3. Opportunity Cost
 - 4. Rationality
 - 5. Gains from Trade
 - B. Models and Economic Theory
 - C. Positive and Normative Economics
 - D. Efficiency as a Goal
 - E. Microeconomics and Macroeconomics

- II. MICROECONOMICS 40%
 - A. Perfectly Competitive Markets
 - 1. Markets
 - 2. Demand
 - 3. Shifts in the Demand Curve
 - a. Income
 - b. The Prices of Related Goods
 - c. Tastes
 - d. Expectations
 - e. Number of Buyers
 - 4. Supply
 - 5. Shifts in the Supply Curve
 - a. Input Prices
 - b. Technology
 - c. Expectations
 - d. Number of Sellers
 - 6. Equilibrium
 - 7. The Characteristics of Competitive Market Equilibrium
 - B. Applications of the Competitive Market Model
 - 1. Changes in Market Equilibrium
 - 2. Elasticity
 - 3. Using Elasticity
 - C. Evaluating Government Policy: The Impact of Price Controls and Taxes
 - 1. Price Controls
 - 2. Taxes
 - D. International Trade
 - 1. An Isolated Economy
 - 2. Adding the Opportunity to Trade

3. Comparative Advantage and the Gains from Trade
4. The Political Economy of Trade
- E. The Profit Motive and the Behavior of Firms
 1. Economic Profits and Accounting Profits
 2. Finding the Firm's Supply Curve
 3. Entry, Exit, and the Market Supply Curve
- F. Imperfect Competition
 1. Monopoly
 2. Monopoly Supply
 3. Welfare Consequences of Monopoly
 4. Dealing with Monopolies
 5. Price Discrimination
 6. Oligopoly
 7. Monopolistic Competition
- G. Creative Destruction: The Profit Motive and the Sources of Economic Change
- H. Market Failures
 1. Externalities
 2. The Effect of Externalities on Resource Allocation
 3. Private Responses to Externalities
 4. Government Regulation of Externalities
 5. Property Rights
 6. The Effects of Private Ownership
 7. Public and Private Goods
 - a. Private Goods
 - b. Common Resources
 - c. Collective Goods
 - d. Public Goods
- I. Institutions, Organizations, and Government
 1. Pork Barrel Politics
 2. Rent-Seeking
 3. What Is the Proper Role for Government?

III. MACROECONOMICS

30%

- A. Macroeconomic Issues
 1. Economic Growth and Living Standards
 2. Recessions and Expansions
 3. Unemployment
 4. Inflation
 5. International Trade
- B. Macroeconomic Measurement
 1. Measuring Total Output: Gross Domestic Product
 - a. Market Value
 - b. Final Goods and Services
 - c. Within a Country
 - d. During a Specified Period

2. Understanding What GDP Measures
3. Other Ways to Measure GDP: Expenditures Equal Production
4. Yet Another Way to Measure GDP: Income Equals Production Equals Expenditures
5. Real GDP
6. Measuring Inflation
7. Unemployment
 - a. Frictional Unemployment
 - b. Structural Unemployment
 - c. Cyclical Unemployment
- C. Economic Growth, Productivity, and Living Standards
 1. The Circular Flow Model of the Economy
 2. What Determines How Much an Economy Produces?
- D. Savings, Investment, and the Financial System
 1. Financial Markets
 - a. The Bond Market
 - b. The Stock Market
 2. Financial Intermediaries
 - a. Banks
 - b. Mutual Funds
 3. Saving and Investment in Aggregate
 4. International Capital Flows in an Open Economy
 5. How Financial Markets Coordinate Saving and Investment Decisions
- E. Money and Prices in the Long Run
 1. What Is Money?
 2. Measuring Money
 3. The Federal Reserve System, Banks, and the Supply of Money
 4. Bank Runs
 5. Money and Inflation in the Long Run
 6. Why Worry about Inflation?
- F. Short-Run Economic Fluctuations
 1. Characteristics of Short-Run Fluctuations
 2. Potential Output, the Output Gap, and the Natural Rate of Unemployment
 3. Explaining Short-Run Fluctuations in Output
 4. The Aggregate Demand Curve
 - a. Wealth Effects
 - b. Interest Rate Effects
 - c. Foreign Exchange Effects
 5. The Aggregate Supply Curve
 6. The Keynesian Model of Short-Run Fluctuations
 7. Inflation in the Keynesian Model
 8. Using Fiscal and Monetary Policy to Stabilize the Economy

IV. THE ECONOMICS OF TECHNOLOGY AND INNOVATION

20%

- A. Life in the Preindustrial World
 1. Material Hardship

- a. Work
 - b. Home
 - c. Food
 - d. Possessions
- 2. Isolation
- 3. Disease and Disaster
- B. Dramatic Improvements in the Last Two Hundred Years
 - 1. Wealth
 - 2. Connectedness
 - 3. Health and Safety
 - 4. Costs and Risks of Progress
- C. How Did the “Great Enrichment” Happen?
 - 1. Mechanization
 - 2. Materials
 - 3. Agriculture
 - 4. Energy
 - a. The Steam Engine
 - b. The Oil Industry
 - c. Electricity
 - 5. Transportation
 - 6. Communications
 - 7. The Germ Theory of Disease
- D. Origins and Diffusion of Technology-Driven Growth
 - 1. Key Concepts in Economic Growth
 - a. Technology and Technological Progress
 - b. Labor Productivity and Capital
 - c. Solow and TFP
- E. Creative Destruction and Technological Unemployment
- F. Innovation Today
 - 1. Measuring the Rate of Progress
 - 2. Paying for Progress
- G. Appropriation and the Value of R&D
 - 1. The Challenge of Appropriation
 - 2. Secrecy
 - 3. Lead Time
 - 4. Complementary Assets and Related Factors
 - 5. Intellectual Property
- H. Other Important Drivers of Innovation
 - 1. Non-Profit Support of R&D
 - 2. The Size of the Market and R&D
 - 3. Cities and Innovation
 - 4. Institutions and Innovation
 - 5. Culture and Innovation