ECO 304L Exam 1 Study Guide (11am)

You will find questions on the exam relating to the media shown in class and used for Kahoots!

Exam: Tuesday February 13th, 11am-12:15pm in-class (JES A121A)

Please bring a pencil, an eraser and your ID card and arrive by 10:40am.

FAQs

What is the exam worth? 240 points (24%).

What is the exam format? 32 multiple choice and 8 short answer questions each worth 1 point. You will get a score /40, scaled to a score /240 when grades are uploaded to Canvas.

Partial credit is available for short answer questions if your answer is wrong but you explain your reasoning/working.

What chapters are covered? Chapters 6-9.

What materials are authorised? This is a closed book, closed notes exam. You may use a physical calculator but may not use a cell phone or any other electronic device during the exam.

Is there a sample exam? You will find sample exam files for chapters 6-9 on Canvas, each with approximately 50 questions.

If you miss exam 1, the final (cumulative) exam becomes mandatory.

How does the 3 skips rule work? Skip any 3 questions – short answer or multiple choice. These are counted as correct. If you don't skip 3 questions, i.e. choose to answer all 40 questions, they are graded as per normal.

Should I read the syllabus? Yes. One question from the exam will come directly from the syllabus 😊

What happens if I miss the exam? The final exam becomes mandatory.

What's the best way to prepare for the exam?

1. Watch the lecture recording for each chapter. Go to Canvas, scroll down to Lectures Online (near the bottom).

2. Take the IQ quizzes in review mode.

3. Attempt the end-of-chapter questions.

4. Attempt the sample exam questions.

5. Attend the Supplementary Instruction sessions

6. Attend office hours if you need help. You can find the days/times for each TA on Canvas (click Modules, click office hours at the top). My availability is **Tuesday/Thursday, 1pm-4pm (BRB 2.102)**

7. I will give an exam review Kahoot in-class on Thursday February 8th.

Chapter 6: GDP

Define GDP: market value, final goods & services, produced within a specific period of time.

Circular flow diagram: link between income & expenditure.

Included: only final goods, & services current production.

Excluded: intermediate goods & transfer payments.

Calculating GDP: we can get an accurate measurement of GDP by taking the sale price of the final good or by taking the value added at each step along the way, but not both. That's double counting.

Components: C + I + G + NX. Be able to give an example of all components. Know that consumption is the largest component in the American economy.

Nominal v Real GDP: nominal uses market prices; real GDP is adjusted for inflation (uses constant prices from a base year). **You should know how to calculate both.**

Know how to calculate economic growth & the GDP deflator.

Real GDP = Nominal GDP – Inflation.

GDP per capita: used to measure standard of living.

Understand trends over time: America has grown by c. 2% per year over the last 50 years, economic growth differs across nations.

Business cycle: short-run path looks like a snake; long-run trend of GDP is upwards.

Problems with GDP: does not account for non-market goods, underground economy, environmental damage, leisure time or the distribution of income.

Alternative measurements of welfare, happiness & standard of living, e.g. world happiness index

Chapter 7: Unemployment

Unemployment is never zero.

3 types of unemployment: structural, frictional & cyclical

Structural: caused by changes in the industrial make-up of the economy; linked with technology. Think of video rental stores v Netflix.

How has the American workforce changed over time? Think about the share of workers in agriculture, industry, and services.

Frictional: caused by the delay in matching available jobs & workers.

Cyclical: caused by an economic downturn; no jobs available ☹

Natural Rate of Unemployment versus Full Employment

NRU: associated with an economy growing normally.

Full Employment: no cyclical unemployment (still some structural & frictional).

In a recession: cyclical unemployment is > 0

In a boom: actual unemployment rate is less than the natural rate. This happens temporarily when the economy is expanding beyond its long-run capabilities.

Measuring Unemployment

Labor force = employed + unemployed

Working-age population: civilian, non-institutionalized, aged 16+

Unemployment rate: (unemployed/labor force) x 100

Labor force participation rate: (labor force/working age population) x 100

You should know how to calculate all four.

Swimming Pool demonstration: what happens to the unemployment rate when people find a job or stop looking for a job?

Is the current American unemployment rate actually 3.5% (December 2022)? There are different measurements of unemployment: narrow (U-3) – favored by the BLS.

U6: U3 + marginally attached + under-employed. Unemployment rate in this case is higher.

Know how to classify workers: employed, unemployed, not in the labor force.

Labor market data: differences in LFPR & unemployment rates.

Know the geography of unemployment in America over the last 20 years.

Chapter 8: Inflation

Define inflation: general rise in the average price level.

Consumer Price Index (CPI): measurement of the price level based on the consumption patterns of a typical consumer.

Compute a price index: first, calculate the basket price. You will need to calculate the CPI across 2 years (possibly 3 years, if there is an earlier base year).

Year 1 (base year). CPI = 100. **(CPI_1)**

Year 2: (basket price/basket price in base year) x 100 **(CPI_2)**

Inflation: **($CPI_2 - CPI_1$)/ CPI_1 x 100**

Why don't all prices move together? CPI tends to overstate inflation.

1. Substitution
2. Quality changes
3. New goods & services.

What are some alternative measures of inflation? Chained CPI, Billion Prices Project.

What are the costs of inflation?

1. Shoe-leather costs
2. Money illusion: confusing nominal & real prices
3. Menu costs: costs of changing prices
4. Future price level uncertainty: borrow, build, hire now, sell & repay later
5. Wealth redistribution: creditors versus debtors
6. Price confusion: is an increase in price a result of an increase in demand or inflation?
7. Tax distortion: capital gains

Using the CPI to compare dollar values across time (think of the highest grossing films of all time)

How do we explain inflation?

Equation of exchange: MV = PY (too much money supply growth)

Other factors:

1. Cost push: supply side (linked to rising costs)
2. Demand pull: demand side (too much demand chasing limited supply)

Chapter 9: Savings & Investment

Loanable funds market brings together borrowers (demand) and savers (supply).

Demand: investors and governments.

Firms borrow to invest; governments borrow to fund deficits.

Chain: savings > borrowing > investment > GDP

Loanable Funds market: in equilibrium, S = I (no surplus or shortage of funds).

IR: reward for savers; price of borrowing.

Changes in IR affect viability of investment.

Fisher Effect: real IR (r) = nominal IR (i) – inflation rate (π).

IR corrected for inflation.

When inflation rises, nominal IR rises to preserve real IR.

Supply Curve of Loanable Funds

Movement along: change in IR

Shift caused by:

1. Changes in income & wealth: positive relationship
2. Changes in time preference: negative relationship (high preference, want now)
3. Consumption smoothing: early life (borrow); prime earning (save); retire (dissave)

Savings rate fell in the U.S. for 3 decades before COVID.

Demand Curve for Loanable Funds

Movement along: change in IR

Shift caused by:

1. Changes in productivity of capital
2. Changes in investor confidence
3. Government borrowing

Equilibrium in Loanable Funds Market

Every dollar borrowed requires a dollar saved.

Price that clears the market is the IR.

What happens when either or both curves shift?

Be able to identify the new equilibrium.

Future of the Loanable Funds Market in the U.S.

Baby boomers retiring & increase in time preferences (shift left) v increase in foreign savings (shift right).

ECO 304L Exam 2 Study Guide (11am)

You will find questions on the exam relating to the media shown in class and used for Kahoots!

Exam: Thursday March 21st, 11am-12:15pm in-class (JESS A121A)

Please bring a pencil, an eraser and your ID card and arrive by 10:40am.

FAQs

What is the exam worth? 240 points (24%).

What is the exam format? 32 multiple choice and 8 short answer questions each worth 1 point. You will get a score /40, scaled to a score /240 when grades are uploaded to Canvas.

Partial credit is available for short answer questions if your answer is wrong, but you explain your reasoning/working.

What chapters are covered? Chapters 11-15.

What materials are authorised? This is a closed book, closed notes exam. You may use a physical calculator but may not use a cell phone or any other electronic device during the exam.

Is there a sample exam? You will find sample exam files for chapters 11-15 on Canvas, each with approximately 50 questions.

If you miss exam 2, the final (cumulative) exam becomes mandatory.

How does the 3 skips rule work? Skip any 3 questions – short answer or multiple choice. These are counted as correct. If you don't skip 3 questions, i.e. choose to answer all 40 questions, they are graded as per normal.

What happens if I miss the exam? The final exam becomes mandatory.

What's the best way to prepare for the exam?

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3. Attempt the end-of-chapter questions.

4. Attempt the sample exam questions.

5. Attend the Supplementary Instruction sessions.

6. Attend office hours if you need help. You can find the days/times for each TA on Canvas (click Modules, click office hours at the top).

My availability is Tuesday, 3/5, Thursday, 3/7 and Tuesday, 3/19, 1pm-4pm (BRB 2.102).

There is a mid-semester break from 3/11-3/16.

Chapter 11: Economic Growth & the Wealth of Nations

Economic growth matters because it correlates with a higher standard of living.

Long-run world per capita GDP resembles a hockey stick: minimal growth before the industrial revolution.

Over the last 200 years, some nations became rich; others remained poor. This chapter looks at why.

Mathematics of growth: $\%\Delta per\ capita\ Real\ GDP = \%\Delta Nominal\ GDP - \%\Delta Prices - \%\Delta Population$

Rule of 70: annual growth rate is X%, size doubles in 70/x years.

Small incremental growth makes a big difference over time.

Source of economic growth

1. Resources: natural resources, human capital, physical capital
2. Technology
3. Institutions

Natural resources are not enough. Think of Liberia.

Physical capital is not enough because we will eventually see diminishing returns to capital.

Technology is important: ability to produce more with less.

Institutions matter! Five important institutions

1. Private property rights
2. Political stability & the rule of law
3. Stable money & prices
4. Competitive & open markets
5. Efficient taxes

Economists test new ideas through randomized controlled trials (RCT).

Chapter 12: Growth Theory

Production function is the relationship between inputs & output.

GDP = Y = F (K, HK, L)

K: physical capital

HK: human capital

L: natural resources

Solow I Growth Model

- Focus is on capital.
- Increasing tools available can increase output per worker.
- Wealthy nations have access to higher levels of capital than developing nations.
- Strong correlation between investment & GDP.

Marginal product: change in output associated with 1 additional unit of an input.

Diminishing Marginal Product

- Marginal product declines as the quantity of the resource increases.
- Because the marginal product of capital (MPK) falls as we increase the amount of capital, at some point it will be unprofitable for firms to increase their capital stock.

Production Function

- Be able to illustrate on a graph
- Movement along a production function: changes in the level of capital.
- Shift in the production function: changes in land, labor, technology.

Implications of Solow I Growth Model:

1. Steady state: no new net investment; no change in capital stock or real GDP.
2. Convergence: GDP across nations should equalize as nations approach steady state. Poor nations should catch up quickly because they start with lower levels of capital where MPK should be higher; return on investment higher.

Evidence of Solow I Growth Model

1. Many poor countries not growing
2. Wealthy countries continue to grow.

No sign of recent convergence.

Solow II Growth Model

- Focus on capital & technology.
- With technology, we can increase MPK & shift the production function up.

$GDP = \ Y = A \times F(K, HK, L)$

K: physical capital

HK: human capital

L: natural resources

A: technology

Technology is viewed as exogenous: not related to what is happening inside the economy.

Policy Implications of Solow II Growth Model

- Low-income countries need access to the latest technology.
- Wealthy nations can help by funding capital investment in poor countries.
- Mixed evidence: some countries received billions in aid & are no better off than they were in 1960; other countries received almost no aid & have grown rapidly.

New Growth Theory

- Technology now considered endogenous.
- Endogenous growth is driven by factors inside the country.

$GDP = Y = A \times F(K, HK, L, Institutions)$

K: physical capital

HK: human capital

L: natural resources

A: technology

The right institutions lead to economic growth

- Positive institutions: transparency, private property rights, stable money & prices.
- Negative institutions: corruption, political instability.

Chapter 13: AD-AS

Aggregate Demand

Understand the components of AD

Why does the AD curve slope downwards?

1. Wealth effect
2. Interest rate effect
3. International trade effect

Movement along the AD curve vs a shift in the AD curve

Aggregate Supply

Long-Run Aggregate Supply (LRAS): period of time for all prices to adjust

- Level of Q where u = u* (natural rate of unemployment)
- Depends on the economy's resources, technology & institutions.

LRAS is vertical

- Implications: change in price only affects SRAS.

Shifts in LRAS (changes in):

1. Resources
2. Technology
3. Institutions

LRAS shifts right: more Q at u*

LRAS shifts left: less Q at u*

Short-Run Aggregate Supply (SRAS): period of time in which some prices have not **yet** adjusted

SRAS is upward sloping for 3 reasons:

1. Sticky input prices
2. Menu costs
3. Money illusion

When the LRAS curve shifts, the SRAS curve automatically shifts.

Factors that only shift the SRAS curve

1. Changes in resource prices
2. Changes in expectations of prices
3. Supply shocks

Long-Run Equilibrium

- AD = SRAS = LRAS
- At this point u = u*

Short-Run and Long-Run Effects

- You should be able to explain & illustrate the following.

1. Recession (negative demand shock)

SR: output ↓, unemployment ↑, price level ↓

LR: output & unemployment stay the same (return to their original level) & price level ↓

2. Shift in AD (expansion in AD)

SR: output ↑, unemployment ↓, price level ↑

LR: output & unemployment stay the same (return to their original level) & price level ↑

3. Shift in SRAS (negative supply shock)

SRAS shifts left (no change in LRAS)

SR: output ↓, unemployment ↑, price level ↑

LR: output, unemployment & price level stay the same (return to their original level)

4. Shifts in LRAS (technology shock)

LRAS & SRAS shift right: output ↑, employment stays the same, price level ↓

COVID-19

- Atypical shock: LRAS, SRAS & AD all shifted to the left:
- Effects: output ↓, unemployment ↑, price level stayed the same (2019-2020)

Chapter 14: Recessions, Expansions & Debates

What causes recessions?

Declines in AD: short-run v long-run effects (same as chapter 13).

Declines in AS: can be caused by a shift in both long-run & short-run AS curves.

Decline in long-run AS leads to permanent changes in an economy.

Illustrate declines in AD, short-run AS & long-run AS.

Great Depression

- Know the basics: time period; deflation, unemployment & GDP figures; longevity.
- Primary cause was a decrease in AD from the stock market crash.
- Faulty policy contributed to the severity: contractionary monetary policy, government allowed banks to fail.

Great Recession

- Know the basics: time period; unemployment & GDP figures, longevity.
- Primary causes were a decrease in both AD & long-run AS.
- Property market collapsed in 2007, causing a major liquidity crisis.
- Negative wealth effects from real estate & stock market collapses.

Coronavirus Recession

- Understand the basics: time period, effect on GDP, unemployment.

Great Depression & Economic Theory

- The Great Depression led to major changes in economics.
- Keynesian economics challenged the conventional wisdom of classical economics.
- Understand the distinctions between both schools in terms of: key time period, price flexibility, savings, key side of the market, market tendency & government intervention.

Chapter 15: Federal Budgets

Government Outlays: trend over the last 50 years

Difference between mandatory outlays & discretionary outlays

Mandatory outlays: > 60% of total expenditure.

Social Security & Medicare/Medicaid are taking an ever-growing share of the federal budget because:

1. People are living longer.
2. There are far more workers retired & drawing down entitlements.
3. Baby boomers have gone into retirement.

Workers per social security beneficiary was 5:1 in 1960; it's now c. 3:1 and will be 2:1 by 2050.

Possible solutions to the Social Security and Medicare Problems

1. Increase retirement age from 67 to 70.
2. Adjust benefits using CPI instead of average wage levels (best years from working years).
3. Means-test for benefits.

Government Outlays

- Trend is upward over time.
- Huge spikes during the Great Recession & COVID-19 recession.

Budget Deficits v Budget Surplus

- Understand the relationship between outlays & revenue.
- U.S. federal budget typically in deficit.
- Gap has widened over time.
- Spending way above long-term average; revenue stagnant.

Deficits v Debt

Deficit: outlays > revenue

National debt: total funds borrowed by the government. Part owed to the public; part owed to government agencies.

Debt to-GDP ratio is the most common metric used for putting debt into perspective. It shows the ability of a nation to pay down debt.

Foreign Ownership of U.S. Debt

- 70% of debt held domestically.
- 30% of debt held internationally.
- Foreign lending increases the supply of loanable funds & helps lower interest rates.

ECO 304L Exam 3 Study Guide (11am)

You will find questions on the exam relating to the media shown in class and used for Kahoots!

Exam: Tuesday April 23rd, 11am-12:15pm in-class (JESS A121A)

Please bring a pencil, an eraser and your ID card and arrive by 10:40am.

FAQs

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What chapters are covered? Chapters 16-20.

What materials are authorised? This is a closed book, closed notes exam. You may use a physical calculator but may not use a cell phone or any other electronic device during the exam.

Is there a sample exam? You will find sample exam files for chapters 16-20 on Canvas, each with approximately 50 questions.

If you miss exam 3, the final (cumulative) exam becomes mandatory.

How does the 3 skips rule work? Skip any 3 questions – short answer or multiple choice. These are counted as correct. If you don't skip 3 questions, i.e. choose to answer all 40 questions, they are graded as per normal.

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My availability is Tuesday 4/16 and Thursday 4/18, 1pm-4pm (BRB 2.102).

Chapter 16: Fiscal Policy

Expansionary fiscal policy: increases in spending or decreases in taxes to stimulate the economy.

Contractionary fiscal policy: decreases in spending or increases in taxes to slow down the economy.

You should be able to illustrate both policies.

Impact of the Great Recession on fiscal policy: massive increases in government spending & increases in budget deficits.

Countercyclical fiscal policy: aim is to minimize business cycle fluctuations.

Multipliers: accentuate any increases in spending

- MPC: $\Delta C / \Delta Y$
- Spending multiplier: 1/(1-MPC)
- Allows us to determine the effect on spending from an initial change

Shortcomings of Fiscal Policy

1. Time lags: recognition, implementation, impact
2. Crowding-out: increase in government spending leads to higher IR & private spending falls

Automatic Stabilizers: inbuilt mechanisms that naturally implement countercyclical fiscal policy in response to economic conditions, e.g. progressive income tax (higher revenue during an economic boom); welfare programs (higher spending during a recession).

Supply-Side Fiscal Policy: use of government spending & taxes to affect the production (supply) side of the economy. Targets the LRAS.

The concept of the Laffer Curve comes from supply-side fiscal policy.

Fiscal Policy During COVID-19

- The recession involved leftward shifts of the SRAS & LRAS and AD.
- The government used demand-side policies, e.g. direct payments & unemployment compensation and supply-side policies, e.g. grants, loans & aid to various small businesses, hospitals, governments & airlines.
- Aim was to shift AD, SRAS & LRAS curves back to the right

Chapter 17: Money and the Federal Reserve

Definition of money

Functions of money:

1. medium of exchange
2. unit of account
3. store of value

Fiat (paper) money is backed by trust & confidence

Problems with fiat money: wears out, counterfeiting, hyperinflation from too much printing

Fractional Reserve Banking

- Banks hold a fraction of deposits as reserves; the rest is lent out to make money.
- Moral Hazard & the FDIC: 9,000 banks collapsed during the Great Depression.
- 1933: Federal deposit insurance was brought in.
- Aim: increase bank stability, decrease bank runs.
- Created a moral hazard problem: banks have less incentive to guard against risk.
- Case study: collapse of the Silicon Valley Bank.

How Banks Create Money

- Simple Money Multiplier: 1/Required Reserve Ratio
- Allows us to work out the maximum impact on money supply.

Roles of the Federal Reserve

- Acts as a bank for the banks & a lender of last resort.

Monetary Policy Tools

1. Open Market Operations: buying/selling of treasury bonds. Quantitative easing started in 2008
2. Discount window including special lending facilities. Expanded in size & scope since Great Recession
3. Interest on excess reserves. Started in 2008. Fed can stimulate (slowdown) the economy by decreasing (increasing) the IORB.
4. Reserve requirements

Chapter 18: Monetary Policy

Changes in interest rates affect 3 components of AD: C, I, NX

Expansionary Monetary Policy

- Done through open market purchases: MS rises, IR falls, I rises, AD curve shifts right.
- Be able to illustrate short-run effects: Y rises, U falls, P rises.
- Monetary policy can have real effects on output & employment in the short-run.
- In the long-run, new money devalues the entire money supply through inflation.
- The real effect of monetary policy disappear.
- The only change is higher prices.

Unexpected Inflation Hurts Some People

If inflation is **higher** than expected:

1. Input suppliers that have sticky prices
2. Workers who signed wage contracts

If inflation is **lower** than expected:

1. Demanders who signed a fixed-price contract
2. Employers who create wage contracts

Contractionary Monetary Policy

- Usually done to curb potential inflation.
- Done through open market sales: MS falls, IR rises, I falls, AD curve shifts left.
- Be able to illustrate short-run effects: Y falls, U rises, P falls.

The huge decline in MS between 1931-33 was a major contributing factor to the Great Depression.

Shortcomings of Monetary Policy

1. Diminished effects in the long-run.
2. Effects are reduced by people's expectations.

Money neutrality: money supply does not affect real economic variables (in the long run).

Illustrate expansionary monetary policy in the long-run: no change in Y, no change in U, P rises.

When monetary policy is completed expected, there are no real effects even in the short-run (only effect is inflation).

Aggregate Supply Shifts

- During the Great Recession, the LRAS & AD curves both shifted to the left.
- Monetary Policy targeted both curves: crisis era policy focused on targeted lending to specific firms & industries.

Chapter 19: International Trade

What do we mean by globalization?

Factors driving globalization.

Trends in U.S. Trade

- Goods & Services (typically in deficit); goods (typically in deficit); services (typically in surplus)

Comparative Advantage

- Based on opportunity cost; leads to specialization & trade

Gains From Trade

- Illustrate gains from trade & calculate opportunity cost
- Other advantages of trade: economies of scale; increased competition

Protectionism

- The most common measures are tariffs (taxes on imports) & import quotas (quantity restrictions).
- Explain & illustrate effects of both.

Reasons Given for Trade Barriers

1. National security
2. Infant industry argument
3. Retaliation for dumping

Chapter 20: International Finance

Define nominal exchange rate.

Explain what is meant by appreciation/depreciation & be able to calculate changes in price.

Demand for Foreign Currency

1. Exchange rate (price) of the currency: leads to a movement along the curve.
2. Demand for foreign goods & services (shift).
3. Demand for foreign financial assets (shift).

Be able to illustrate this.

Supply of Foreign Currency

- Supply curve is vertical.
- Government can increase or decrease the money supply, leads to shifts of the supply curve.

Be able to illustrate how demand/supply shifts affect the exchange rate.

Exchange rate manipulation

- Some countries devalue their currency to make their exports cheaper, to increase AD.

Purchasing Power Parity

- Law of one price: define, explain & calculate.

Balance of Payments

- Current account: goods & services, current income from investments & gifts. Often in deficit.
- Capital account: payments for real & financial assets between nations. Often in surplus.
- Current account balance + capital account balance must sum to zero.

What Causes Trade Deficits?

1. Strong economic growth
2. Lower personal saving
3. Budget deficits