

# FCS 3450 Exam Review

Please note that you will be allowed to take a letter-size page of notes with you. You can write or type on it whatever you deem to be helpful. The PVFS and FVFS formulas will be given to you on the exam. This sheet, or the formula sheet, will NOT be allowed to be taken to the exam.

## Exam I.

### Unit 01

- Microeconomics and macroeconomics
- Relative price and nominal price
- Diminishing marginal utility, demand, and supply
- Demand curve
- Supply curve
- Substitution and income effects of a price change
- Market equilibrium
- Opportunity cost
- The value of time

### Unit 02

- Inflation, inflation rate and purchasing power of money
  - Escalating inflation
  - Disinflation
  - Deflation
- Consumer Price Index
- Interest rate and rate of time preference
- Nominal and real interest rate
- Uncertainty and expected values

### Unit 03

- Future value
- Simple interest vs. compounded interest
- Future value for one time investment
- Future value factor
- Future value for periodical investment
- Future value factor sum
- Beginning of the month and end of the month calculation
- Various applications of FVF and FVFS

### Unit 04

- Present value
- Discounting and discount rate
- Present value for lump sum money
- Present value factor

Present value for periodical payments  
Present value factor sum  
Beginning of the month and end of the month calculation  
Various applications of PVF and PVFS such as annuity

#### Unit05

Business cycle or economic cycle  
Peak, contraction, trough, and expansion  
Recession  
Historical trends  
GDP - Nominal GDP, inflation-adjusted GDP, per capita GDP  
Leading economic indicators, coincident indicators, and lagging indicators  
The cause of inflation  
The history of money system – barter, exchange tickets, etc.  
The Federal Reserve system  
Fractional-reserve banking  
Money supply  
Predicting inflation rate

#### Unit06

Supply shocks  
Federal Reserve fine-tuning  
Loose monetary policy  
Tight monetary policy  
Fed fine-tuning and business cycle  
Interest rate spread  
Long-term interest rate  
Short-term interest rate  
Prediction of future interest rate  
The Federal budget deficit  
Nominal numbers, inflation-adjusted, and as percentage of GDP  
National debt  
Nominal numbers, inflation-adjusted, and as percentage of GDP  
Trade deficit and trade surplus  
Forecasting inflation, interest rate, and employment opportunities

#### Exam II. (NOT COMPREHENSIVE)

#### Unit07

Housing vs. shelter  
Cost of living index  
Cost of owning a home  
One-time cost: closing cost, down payment, selling cost  
Periodical cost: opportunity cost, mortgage payment, property tax, insurance, operating/maintenance cost  
Factors reducing ownership costs: tax deduction, appreciation

## Mortgage:

- Monthly payment
- Principal
- Interest
- Loan balance
- Standard deduction vs. itemized deduction
- Marginal tax rate
- Tax benefit of homeownership
- Rate of appreciation
- Housing price index

## Unit08

- Ownership vs. renting
- Holding period
  - Net one-time cost of homeownership
  - Net periodical cost of homeownership
  - Outstanding loan balance
  - Breakeven selling price
  - Breakeven annual rate of housing value appreciation
- Private mortgage insurance
- Qualifications - PITI ratio: 28% rule and 38% rule
- ARM related terminologies and computations
- Interest only mortgages
- Graduated payment mortgages
- Balloon/reset mortgage
- Negative amortization
- Biweekly mortgage

## Unit09

- Definition of human capital investment
- Forms of human capital investment
- Why investing in human capital
- Schooling as an example
- Cost and benefit analysis of schooling (application of present values)
- Rate of return on education (application of present values)
- Factors affecting rate of return on education

## Unit10

- Risk - pure risk and speculative risks
- Dimensions of pure risks - the frequency of occurrence and the severity of loss
- Insurance priority
- Util and diminishing marginal value
- Premium and expected loss
- Premium and interest rate
- Deductibles, co-insurance, and cap computations

Basic knowledge of different kinds of insurance: life, disability, health, liability, car insurance

#### Unit11

Relationship of risk and return

Different types of risk: default, liquidity, interest rate, inflation, reinvestment

Measurement of risk: variability of return, Beta for stocks, interest rate risk and credit risk for bonds

Risk aversion, risk neutral, risk seeking

Types of return: capital gain and income distribution

Discount investment

Yield computation (AEY) for capital gain, income distribution, and both

Tax implication: AEY and after-tax AEY

Basic investment ideas: stocks vs. bonds, individual assets vs. mutual funds

Historical returns on different kind of investments(patterns)

Be able to discuss basic investment concepts such as diversification

#### Unit12.

Income, expenditure, saving, and borrowing trend in the U.S.

Life Cycle Hypothesis: Graph and explanation

Behavioral life cycle hypothesis

Necessity goods, luxury goods, and status goods

Retirement saving planning: A 5 step process

Borrowing: Closed-ended vs. open-ended loans

APR - should be able set up the problem without solving it

Personal bankruptcy