Finančna matematika 1
Teme za ustni izpit

- obveznice, časovna struktura obrestnih mer
- terminske pogodbe in terminski posli
- zamenjave
- opcije
- model finančnega trga, popolnost in polnost modela
- zakon ene cene in neobstoj arbitraže
- pogojne terjatve
- cenovni funkcional
- zamenjava numerarja in osnovna izreka vrednotenja
- večobdobni model finančnega trga
- trgovalne strategije in pogojne terjatve
- cenovni funkcional v večobdobnem modelu
- osnovne lastnosti martingalov
- osnovna izreka vrednotenja v večobdobnem modelu
- binomski (CRR) model, popolnost in polnost modela
- vrednotenje v binomskem modelu
- limitni proces in ideja izpeljave Black-Scholesove formule
- grški parametri in Black-Scholesova parcialna diferencialna enačba
- časi ustavljanja in optimalni časi ustavljanja
- Snellova ovojnica in Doobov razcep ter minimalni in maksimalni optimalni čas ustavljanja
- pogojne terjatve ameriškega tipa – osnovna ideja o vrednotenju

Financial Mathematics 1

2013/2014

Topics for the oral exam

- bonds, term structure of interest rates
- future and forward contracts
- swaps
- options
- financial market models: perfect and complete models
- the law of one price and non-existence of arbitrage
- contingent claims
- linear pricing functional
- change of numeraire and fundamental theorems of asset pricing
- multi-period market model
- trading strategies and contingent claims
- linear pricing functional in multi-period model
- basic properties of martingales
- fundamental theorems of asset pricing in multi-period model
- binomial (CRR) model, when is it perfect and complete
- pricing in the binomial model
- limit process and main steps of Black-Scholes formula derivation
- the Greeks and Black-Scholes partial differential equation
- stopping times and optimal stopping times
- Snell envelope, Doob's decomposition, minimal and maximal optimal stopping time
- American contingent claims – basic ideas on their valuation