DERIVATIVES

TOPICS OF THE COURSE:

 Reviewing the Black-Scholes-Merton model.

o Greek letters, replication/hedging, and no arbitrage for a generic derivative contract.

o Pricing speci.c derivatives via partial di¤erential equations and via riskneutral valuation.

- The forward contract.
- The log contract.
- The power contract.
- European digital options.
- European options.

 Pricing barrier contracts and American options.

o The cash-at-hit contracts.

o American options as cash-at-hit-contracts with an endogenous barrier.

READING LIST:

 Lecture notes.

 I Steven E. Shreve (2004), Stochastic Calculus for Finance, Volume II: Continuous-Time Models, Springer-Verlag (Chapters 5, 6, and 8).

 John Hull (2008), Options, Futures, and Other Derivatives, 7th Edition, Prentice Hall (Chapters 12, 15, 17).