

Queens College, CUNY, Department of Computer Science
Computational Finance
CSCI 365 / 765
Fall 2017
Instructor: Dr. Sateesh Mane

Classes: Mon & Wed 5:00 – 6:15 pm, SB A143; 3 hr., 3 cr.

Office & Hours: SB A201; Mon & Wed 2:00 – 3:00 pm (approx)

Prerequisites: CSCI 313 and MATH 241; or CSCI 314 and ECON 249 for Finance students.

Textbook: (optional) John Hull, *Options, Futures and Other Derivatives*, 10th ed.

Course Description: Valuation of derivatives as a family of algorithmic computations, with analysis of the underlying financial model and hands-on implementation practice. Topics to be covered will include:

- time value of money (interest rates, yield curves)
- arbitrage based pricing and hedging
- risk neutral pricing and risk free portfolio
- Black-Scholes-Merton model
- options
- path-dependent and ‘exotic’ derivatives
- volatility smiles

If time permits, additional topic(s) may be included. Relevant numerical algorithms will be covered.

Learning Goals: The emphasis of the course will be on computation, not abstract mathematics. Advanced mathematics such as stochastic calculus is not required. Prior knowledge of finance is not a prerequisite.

Course Website: <http://venus.cs.qc.edu/~smane/cs365/>

Grade Policy: The grading policy will consist of:

- Midterms (70%)
- Final (30%)
- Graduate students will be required to pass an oral exam on the last lecture day.

Exam Dates: The first midterm will be in class on Wednesday September 13, 2017. Other midterms to be decided.

Academic Policy: Academic dishonesty such as plagiarism or cheating will be dealt with seriously in accord with the University’s policy on academic integrity.