

## APPLIED MATHEMATICS 483 "COMPUTATIONAL METHODS IN MATHEMATICAL FINANCE"

**Calendar Description:** H(3-1T)

Review of financial models, Monte-Carlo simulation, binomial and trinomial trees, finite-difference method, aspects of time series and parameter estimation, volatility modeling and estimation.

**Prerequisite:** Applied Mathematics 481 and 491.

**Corequisite:** Applied Mathematics 493.

### *Syllabus*

<u>Topics</u>	<u>Number of Hours</u>
Review of financial models	3
Monte-Carlo simulation and option pricing	8
Binomial and Trinomial trees for option pricing	8
Finite Difference methods for partial differential equations in finance	8
Time series analysis and parameter estimation	6
Applications	3
<b>TOTAL HOURS</b>	<b>36</b>

\*\*\*\*\*