

Applied Mathematics 481

Introduction to Mathematical Finance

Introduction to financial markets and derivatives, asset price random walks, Black-Scholes option pricing model, American options and other generalizations.

Course Hours: H(3-1T)

Prerequisite(s): [Mathematics 323](#) and one of 353 or 381.

Suggested Textbook: M. Capinski and Tomasz Zastawniak, ‘Mathematics for Finance. An Introduction to Financial Engineering’, Springer, 2003.

Syllabus

<u>Topics</u>	<u>Number of Hours</u>
Introduction: A simple Market Model (Ch1)	4
Risk-free Assets (Ch2)	5
Risky Assets (Ch3)	5
Discrete Time Market Models (Ch4)	3
Portfolio Management (Ch5)	4
Forward and Futures Contracts (Ch6)	3
Options: General Properties (Ch7)	4
Option Pricing (Ch8)	4
Financial Engineering (Ch9)	4
TOTAL HOURS	36
