

## 15.455x Mathematical Methods for Quantitative Finance

### Suggested Weekly Reading List

#### Optional Recommended Textbooks:

- Tsay, *Analysis of Financial Time Series* (3e), Wiley (Tsay)
- Capinski and Zastawniak, *Mathematics for Finance*, Springer (CZ)

#### Week 1: Probability

n/a

#### Week 2: Introduction to discrete-time stochastic processes

Tsay, Chapter 2

#### Week 3: Time series models

CZ, Chapter 6

#### Week 4: Introduction to continuous-time stochastic processes

CZ, Chapter 8.1, 8.2

#### Week 5: Itô calculus

CZ, Chapter 8.3, 8.4, 8.5

#### Week 6: Continuous-time finance

Tsay, Chapter 6

#### Week 7: Linear algebra of asset pricing

Non-textbook resource recommendations forthcoming

#### Week 8: Optimization

Non-textbook resource recommendations forthcoming

#### Week 9: Optimal decision making and optimal strategies

Non-textbook resource recommendations forthcoming